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Abstract

The objectives of the annual survey of hearing impaired children and youth which are presented are to collect, process, and disseminate statistical information on characteristics of all hearing impaired individuals through college age. One aspect of this work is described through results of the administration of the Stanford Achievement Tests (Form W) to about 12,000 hearing impaired children from 70 schools and 39 classes. A description of the tests, the methodology and sources of the data, and the qualifications and limitations of the data are included. Also provided are detailed tables of the results of the test batteries and a description of these tables. It was noted that the test results should be considered limited because the Stanford Achievement Tests were developed for hearing students. Appendixes include an annual census form, a description of the sub-tests of the Wechsler, and a list of participating schools. (JM)

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ANNUAL SURVEY OF HEARING IMPAIRED CHILDREN AND YOUTH

ED033523

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SERIES D
NUMBER 1

ED033523

DATA FROM THE
ANNUAL SURVEY OF HEARING IMPAIRED CHILDREN AND YOUTH

ACADEMIC ACHIEVEMENT TEST PERFORMANCE OF HEARING IMPAIRED STUDENTS

UNITED STATES: SPRING 1969

Stanford Achievement Test performance of 12,000 students in schools and classes for the hearing impaired classified according to selected chronological ages and hearing threshold levels.

OFFICE OF DEMOGRAPHIC STUDIES
GALLAUDET COLLEGE

Washington, D.C. September 1969

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This publication is the first of a planned series of reports to be prepared from data collected in the Annual Survey of Hearing Impaired Children and Youth. The establishment of the Survey and any success it has achieved are due to the efforts of many persons and organizations. The individual recognition earned by these benefactors will be given in another publication.

On this occasion, we specifically wish to express our gratitude to: Dr. Jerome D. Schein who was responsible for initiating the program; Dr. Powrie V. Doctor whose advice helped us to solve many problems; and to Dr. George E. Detmold for his encouragement and support.

The names of the schools that participated in the Achievement Testing Program are listed elsewhere in this document. Without the cooperation of the administrators and staff members of these schools, there would have been no material for this report.

Overall guidance for the program is provided by the National Advisory Committee, whose members are listed below. Individually and collectively they have counseled and inspired us.

Finally, we must publicly express our thanks to the loyal and dedicated staff members named below, whose talents and many extra hours of work have made this publication possible.

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Academic Achievements Test Performance of Hearing Impaired Students United States: Spring 1969

Augustine Gentile and Sal DiFrancesca, Ph.D.

INTRODUCTION

This report describes the results obtained from administering Stanford Achievement Tests to about 12,000 hearing impaired children. These tests were conducted as part of the Annual Survey of Hearing Impaired Children and Youth. Since the "Annual Survey" is a relatively new program, a brief description of its background and purposes will be useful here.

THE ANNUAL SURVEY OF HEARING IMPAIRED CHILDREN AND YOUTH

The Annual Survey of Hearing Impaired Children and Youth was formally established in May 1968 following two years of extensive pilot and developmental research which determined its utility and feasibility. The founding of the Annual Survey fulfilled the efforts of many individuals and organizations engaged in providing services to the hearing impaired. To facilitate planning and to enhance the effectiveness of these services, a need for a permanent center for statistical research in the area of hearing impairment became markedly evident. Roots to the Annual Survey took ground in this strong need for national level statistics. All policies determining the direction of the program are delineated by a representative committee of individuals engaged in extending services to the hearing impaired. Gallaudet College and the Division of Research, Bureau of Education for the Handicapped, Office of Education, Department of Health, Education and Welfare are sponsoring the Survey Program. It is conducted by the Office of Demographic Studies of Gallaudet College.

The purposes of the Annual Survey are extensive and multi-fold. In general, program objectives are to collect, process and disseminate statistical information on critical characteristics of the entire population of hearing impaired individuals from pre-school through college age, in the United States. The primary functions of the Office of Demographic Studies will be to develop national data collection methodology, compile the data, and analyze and publish the results. In order that these data be utilized most effectively and extensively, independent investigators must and will be encouraged to use data from the Survey as a basis for intensive research.

Two major principles underlying the Survey program should be noted here. First, it is of paramount importance that participating institutions be assured that the data collected will be held in strictest confidence. Only staff members of the Office of Demographic Studies will have access to the records and then only for the purpose of preparing statistical summaries and for analyses of the data. Individual student identification may be established by code numbers assigned and known only by the reporting institution. Each school will receive data on its own students, but no information permitting identification of any individual school or particular group of schools will be published or made available for any purpose. Independent researchers will have access only to summary statistics and they will not know the identity of the schools from which they were compiled. Second, the program is committed to

expending a substantial portion of its resources to developing and utilizing scientific methods of data collection and processing to assure a high level of quality in published results. Towards this goal, major emphasis will be placed on data evaluation studies in order that validity and reliability of published statistics can be appropriately described.

The 1968 – 1969 Survey

As previously stated, the overall goal of the program is to collect and disseminate factual information on the prevalence and characteristics of hearing impaired children and youth in the United States. In consideration of the available resources and the different techniques that will be required to attain program goals, for operational purposes, the universe of hearing impaired children and youth has been divided into three groups:

Group A – Hearing impaired individuals who are receiving special educational attention related to a loss of hearing.

Group B – Individuals identified as having a hearing loss but who are not receiving any special educational services.

Group C – Individuals in the general population who in fact are hearing impaired but have not been diagnosed as having a hearing loss.

During the 1968-1969 year, data collection efforts were directed at the hearing impaired population in Group A.

During the first year 101 institutions identified in the *American Annals of the Deaf* as "Schools for the Deaf" and a sample of one-sixth of the programs identified as "Classes for the Deaf" were asked to participate in the program. The sample of classes was chosen in a manner to provide representation regarding geographical factors, size of programs and public and private institutions. In the first year of operations, individual record forms were received for approximately 22,000 students in schools and classes for the hearing impaired. This represents nearly 80 percent of the total enrollment in the schools and classes invited to participate (See Table A).

The forms submitted on each student contained educational, audiological and other information. The data form used for the purpose is found in Appendix I. The results from the processing of the Annual Survey first year data will be presented in later publications by the Office of Demographic Studies. Only the results of the Achievement Testing Program, an adjunct to the Annual Survey, are presented in this publication.

THE ACHIEVEMENT TESTING PROGRAM

Several factors led to the establishment of the Achievement Testing program. As part of any data collection methodology, it is necessary to develop

TABLE A: Participation in the Annual Survey of Hearing Impaired Children and Youth: 1968-69 School Year

Type of Institution	Estimated Enrollment In Schools and Classes Invited to Participate	Estimated Enrollment in Schools and Classes That Returned Completed Data Forms	
		Number	Percent of Total Invited
All Institutions	27,206	21,447	78.8
Schools	21,593	17,400	80.6
Classes	5,613	4,047	72.1

standard measuring instruments. This is important in insuring comparability and reliability of data collected from various sources. As educationally related factors are a concern to the Annual Survey, an important goal for the program is to develop a standard test of academic achievement for hearing impaired students. The tests presently used to assess academic progress of these individuals have been developed for normal hearing student populations. As such, they appear to lack sufficient reliability and validity when they are applied to hearing impaired students. As a first step in developing a standard achievement test for hearing impaired students, it was decided to conduct an intensive item analysis of the answers given by hearing impaired students, to questions contained in an achievement test used in the general population.

At the present time educators of the hearing impaired have no satisfactory alternatives but to rely on achievement tests about which they hold some reservations, using them because they are the best available academic assessment instruments. In spite of these limitations, educators have stated that the utility of the existing tests would be enhanced if national "norms" based on performance of the hearing impaired population were available. These "norms" would permit comparative judgements to be made concerning the performance of local programs relative to the total universe of hearing impaired students. This need for more extensive information concerning the academic achievement test performance of hearing impaired students has led to the decision to publish the data contained in this report.

Pending further analysis of the data, evaluation of techniques used in administering the tests, and determination of the "representativeness" of the sample used, the authors present these results, not as "true national norms" but only as the results of an achievement test administered to a large group of hearing impaired students.

In the planning phase for the achievement testing program, a major decision to be made was the selection of the tests to be used for the purpose of the Survey. The National Advisory Committee for the program chose the Stanford Achievement Tests. The decision was based primarily on the fact that these tests were the ones most commonly used by educators of the deaf.

DESCRIPTION OF THE STANFORD ACHIEVEMENT TEST SERIES

Harcourt, Brace and World, Inc., publishers of the Stanford Achievement Tests, describe them as a series of comprehensive achievement tests developed to measure the important knowledges, skills and understandings commonly accepted as desirable outcomes of the major branches of elementary and secondary education. The tests are intended to provide dependable measures of these outcomes, comparable from subject to subject and grade to grade, for use in connection with improvement of instruction, pupil guidance and evaluation of progress. The Stanford Tests are revised periodically to ensure that their content continues in line with what is currently being taught in the schools. The edition used in the Achievement Testing Program was Form W, published in 1964.

The Stanford Tests were constructed from data on the academic performance of an extensive national sample of hearing school children. They can be used for group testing and the directions for administration and scoring are not complicated. The tests have a high degree of reliability and validity with respect to the standardization population. Technical problems arise when the Stanford tests are administered to a hearing impaired population, however.

The series of the Stanford Tests (Form W) used in the Annual Survey Program consists of five separate, but to some extent, overlapping batteries or levels. These cover the range of academic grade levels from the beginning of grade 1 to the end of grade 12. Each battery is intended for students at different academic grade levels. The batteries themselves consist of a series of sub-tests which cover the various academic subject matters appropriate to the different grade levels. Table B gives the titles of the various sub-tests contained in each of the Stanford Test batteries of Form W series used in this study. A description of what each sub-test purports to measure, and their general content and rationale is contained in Technical Appendix II.

METHODOLOGY AND SOURCES OF THE DATA

The participants in the Achievement Testing Program were selected from the original list of schools and classes for the hearing impaired that were asked to participate in the first year activities of the Annual Survey. A limited number of these organizations were not contacted regarding the achievement

TABLE B: Sub-tests contained in successive battery levels of the Stanford Achievement Test Series, Form W

PRIMARY I	PRIMARY II	INTERMEDIATE I	INTERMEDIATE II	ADVANCED
Word Reading	Word Meaning	Word Meaning	Word Meaning	
Parag. Meaning	Parag. Meaning	Parag. Meaning	Parag. Meaning	Parag. Meaning
Vocabulary	Science & Social Studies Concepts			
Spelling	Spelling	Spelling	Spelling	Spelling
Word Study Skills	Word Study Skills	Word Study Skills		
	Language	Language	Language	Language
	Arithmetic Computation	Arithmetic Computation	Arithmetic Computation	Arithmetic Computation
Arithmetic	Arithmetic Concepts	Arithmetic Concepts	Arithmetic Concepts	Arithmetic Concepts
		Arithmetic Applications	Arithmetic Applications	Arithmetic Applications
		Social Studies	Social Studies	Social Studies
		Science	Science	Science

testing program for the following reasons: 1) the enrollment was too small; 2) the enrollment consisted of students too young to have obtained measurable academic achievement levels, i.e., preschool programs, and, 3) the program was primarily for multiple-handicapped students. After these eliminations, a total of 156 programs remained and in December of 1968, they were sent letters soliciting their cooperation along with forms for ordering the test materials. Follow-up letters were sent to the schools and classes which failed to respond to the original invitation to participate. In total affirmative responses and orders for achievement tests were received from 117 programs.

Participation in the testing program was completely voluntary. The main reasons given for nonparticipation were: reservations concerning the adequacy of the Stanford Series when administered to hearing impaired students; insufficient staff to manage the testing program; adherence to School District testing programs which did not employ the Stanford Series or tested students on an every other year basis; and the inability to arrange the testing program into the school schedule.

About 16,000 achievement tests were ordered by the 117 participating programs. Eight institutions did not return completed tests to the Office of Demographic Studies, however. These are accounted for as follows: five programs withdrew from the testing program and the other three programs were unable to administer the tests prior to the deadline for returning the results to the Survey office.

Achievement Tests for 12,051 students were received for scoring purposes. Of these, 507 were obtained too late to be included in the data in this report. Table C presents the number of achievement tests received according to schools and classes. It is to be noted that about 3,500 tests of the total number ordered were not returned to the Office of Demographic Studies. This is accounted for in part by the 8 institutions stated above that did not return their tests, and by normal over-ordering of test materials. Other possible reasons for this are presently being determined.

Based on a preliminary examination of pertinent characteristics (age, sex, size of educational program and geographic distribution) it appears that the students who participated in the achievement testing

TABLE C: Number of achievement tests obtained according to schools and classes for the hearing impaired

	Both	Schools	Classes
Total	12,051	10,559	1,492
Included in report	11,544	10,095	1,449
Excluded from report	507	464	43

TABLE D: Recommended age guidelines for selecting Stanford Achievement Test batteries for hearing impaired students

Age	Test Battery Levels
7-9 yrs.	Primary I, Form W
10 yrs.	Primary II, Form W
11 yrs.	Intermediate I, Form W
12-13 yrs.	Intermediate II, Form W
14 yrs. & over	Advanced, Form W

program constitute a representative sample of students *for whom records were received during the first year of the general Survey.*

However, the lack of complete Census information on the total universe of hearing impaired students precludes a determination of the "representativeness" of the present sample to that universe. Therefore, the results reported herein are at best applicable to the approximately 22,000 students who participated in the general survey and more precisely applicable to the 12,000 students for whom test results were obtained. The names of the schools and classes that participated in the achievement testing program is contained in Appendix III.

As stated, the Stanford Achievement Series consists of five separate, but to some extent, overlapping test batteries. These test batteries are generally meant to be administered according to the particular grade placement of the student. As grade levels are de-emphasized in educational systems for the hearing impaired, it was recommended that test batteries be selected according to the student's chronological age. Table D presents the recommended guidelines for selecting the Stanford Test battery for hearing impaired students.

It was not intended that the age guidelines be rigidly adhered to as there is wide discrepancy in academic performance levels among hearing impaired students of the same age. This may be a function of such critical variables as number of years of education, age at onset and severity of hearing loss. Table E shows the actual age distribution of the students whose test results are included in this report.

In addition to the regular test instructions, supplementary directions for administering the Stanford Test to hearing impaired students were made available by the test publishers and distributed to the participating programs. However, the Office of Demographic Studies made no effort to control the test administration procedures used by participating schools. It was stressed only that test administrators and students be made to understand fully the directions and test procedures. The schools themselves decided on who was to administer the tests, which test battery levels were to be used and the sub-tests within the test batteries that seemed relevant to administer to their students. Some variation in these policies occurred among the various schools.

In order to obtain general equivalence among the data obtained from the various reporting sources regarding time of administration, it was requested that the achievement tests be administered within approximately the same period of the academic year. March and April were selected for this. It was not possible for some programs to arrange this and exceptions to these dates were allowed. The actual administration dates ranged from February to June 1969. The majority of tests were administered within the recommended period, however.

Test materials and scoring services were provided with no charge to participants in the program. After administration, the individual test booklets and answer forms were returned to the Office of Demographic Studies where they were matched with the respective students' basic survey forms for proper identification and checked for clerical errors. Information on age and hearing threshold level (the variables used in this report) were added to the answer sheets and the materials were then forwarded to the Harcourt, Brace Scoring Center to be machine scored. Each participating program received in return a computer printout of the following information: raw scores and the grade equivalent scores obtained by each student on the battery sub-tests and arithmetic and reading totals; the student's percentile rank within each sub-test and class averages for the sub-tests and totals; quartile and

TABLE E: Number of achievement tests included in this report according to age and test battery level

Age	TEST BATTERY LEVEL					
	All Levels	Primary I	Primary II	Intermediate I	Intermediate II	Advanced
All Ages	11,544	3076	2521	1999	1870	2078
6 & Below	119	115	4	–	–	–
7	317	306	11	–	–	–
8	513	455	58	–	–	–
9	855	636	197	20	2	–
10	1161	564	503	84	10	–
11	951	265	446	194	46	–
12	1005	210	382	246	167	–
13	1032	114	279	314	282	43
14	1005	62	203	294	285	161
15	1007	58	132	287	276	254
16	1004	27	88	232	291	366
17	853	19	44	140	245	405
18	604	9	26	67	127	375
19	337	–	9	28	51	249
20 & Above	131	–	–	15	7	109
Unknown	650	236	139	78	81	116

standard deviation scores for the sub-tests and totals; and item analyses of each test battery completed by their students.

Summaries of the data were prepared by the Harcourt, Brace Scoring Center. From these tabulations the Office of Demographic Studies prepared the tables contained in this report. Additional tables containing information and interrelationships on other variables are in preparation and will be published in later reports.

QUALIFICATIONS AND LIMITATIONS OF THE DATA

In order to interpret correctly and use the data obtained from the achievement testing program, it is important to take careful note of certain qualifications and limitations that appear inherent in the data itself. The fact that the Stanford Achievement Tests were standardized for use by hearing students attending regular educational programs, raises general questions about the reliability and validity of the tests when they are administered to hearing impaired students.

Potential problems in the validity of the test results exist insofar as schools and classes for the hearing impaired may not follow the standard academic curriculum taught in regular hearing schools. The Stanford Achievement Tests reflect, and purport to measure, achievement in the academic content areas of regular schools. This conventional content may not receive identical emphasis in educational programs for the hearing impaired. Such curricula are often highly specialized and may differ extensively from regular school programs, particularly at early academic years. In addition, there appears to be a greater variability regarding academic content areas among various educational programs for the hearing impaired. These factors lead to limitations in interpreting the data from the achievement testing program, and lead to serious questions about the propriety of comparing test results for the hearing impaired to tests results obtained by hearing students.

Additional factors also may have affected the validity and reliability of the Stanford test in this situation. Certain sub-tests of the Stanford Series were designed for administration by verbal or audi-

tory directions. Further, the written language level required to comprehend fully the test content appears to have been determined according to standards of the normal hearing student population. There are no satisfactory assurances that the directions for taking the tests were understood equally and adequately by all the hearing impaired students or that they were able to accommodate to the language level required to comprehend fully the test content.

In communicating the test directions it became necessary to use speech reading and the language of signs. Thus, a student's test performance may reflect his receptive ability with such modes of communication. The occurrence of phrases in the test directions and body content that were longer and structured differently than those commonly used by hearing impaired students presented further complications. The administration of the Spelling sub-test, at early battery levels, also led to technical difficulties. Some test administrators relied on showing pictures of the words to be spelled. No standardization control was maintained over these graphic materials, however, and they may have varied from school to school. A compounding of these factors could have led to a serious depression of the test's reliability and validity.

Data are now being collected, on a post-hoc basis, that will yield more precise information on how the tests were administered. These data will also provide a basis for developing standardized administration procedures for later studies.

In further considering the limitations of the data presented here, it must be recognized that participating students do not necessarily represent a stratified random sample of students in all schools and classes for the hearing impaired. No statistical biases appeared evident in the obtaining of this sample but its true "representativeness" can only be determined when comprehensive census data are gathered on the overall hearing impaired student population. Some limitations also arise in consideration of the size of the sample on which these data are based. The statistical summaries are based on test results from about 12,000 students. It is to be kept in mind, however, that the data groups are broken down into a number of cells depending on the particular test battery, chronological age and degree of hearing loss. This considerably reduces the number of students represented in each statistical summary. Further notations about this problem are made in the section that describes the tables.

One major factor remains to be discussed. The achievement test data are presented according to categories of chronological ages and hearing loss levels. There would appear to be other variables which may affect the academic achievement obtained by these students, however. For example, the age at onset of the loss and the number of years of education may bear on the level of achievement obtained by hearing impaired students. The relative measurable influence of such variables on achievement test results will be presented in a later publication.

Some other technical concerns do occur when the Stanford Achievement Tests are administered to hearing impaired students. Only those of major issue have been discussed. The overall result of these problems may lower considerably the reliability and validity of the Stanford Tests when they are used with this population.

In conclusion, it is strongly asserted that even though the results are presented in terms of "grade equivalents" they should not be treated as absolute values and they should not be used to compare the general academic achievement of hearing impaired students to the achievement levels of hearing students. More appropriately the results should be considered as relative values that show relationship between sub-groups of the population that participated in the testing program.

DESCRIPTION OF THE TABLES

The results of the Achievement Testing Program are presented in a series of tables according to test levels, selected chronological ages, and hearing loss threshold levels. The results are presented in order from the lowest test levels (Primary I Battery) through the highest level (Advanced Battery).

It will be recalled that chronological age guidelines were recommended (see Table D) for selecting particular test batteries for administration to the students. Since a hearing impaired student's academic performance is a function of factors other than chronological age, these guidelines were meant to be tentative. Degree of hearing loss, age at onset of loss, number of years of education, other hadicapping conditions, etc. are also critical factors affecting academic performance. Thus, it was suggested that test administrators consider all these factors in selecting the battery level for testing each student. On the basis of the wide range of ages of students who took each test battery, it appears that the suggestion was followed. (See Table E).

Because it would not have been feasible or statistically meaningful to give the results by age for all students, only the results obtained by students of five different ages are presented for each test battery. In selecting the ages to be presented, it was decided to give the results only for those ages represented by more than 200 students and to select the five ages that had the highest number of students taking a particular test.

The data also are presented according to hearing loss threshold levels of the students taking the tests. Hearing loss thresholds were determined from the average hearing levels in the better ear at 500, 1000 and 2000 cycles per second. For the purposes of this study, all students were classified in one of five categories. These were 85 decibels and over, 60-84 decibels, 30-59 decibels, under 30 decibels and "unable to determine". This latter category included students for whom no audiological information was received and those for whom it was not possible to compute the better ear average from the reported information. At the time the tabulations for this report were prepared, it was not possible to determine "better ear averages" for about 30 percent of the students. Information now is being obtained on these students and this category should be reduced considerably in later publications. The number of students for whom achievement test results were available are shown in Table F by age and category of hearing loss.

With respect to hearing threshold levels, the data are presented for all hearing levels combined and for those students with hearing thresholds at 60 decibels and higher (ISO). It was not possible to present the data in greater detail, as to hearing loss, because this would have led to tables containing data for too few students to be statistically meaningful.

In each table the data are presented in grade equivalent intervals. These intervals have a range of .5 which is equal to one-half of a school year or five

TABLE F: Number of students for whom achievement test results were available by age and hearing threshold levels

Age in Years	All Hearing Levels	HEARING THRESHOLD LEVELS IN DECIBELS (ISO)[1]				
		Under 30	30 to 59	60 to 84	85 and over	Unable To Determine
All Ages	10,894[2]	106	709	2570	4355	3154
Under 7	119	1	12	26	41	39
7	317	11	33	59	133	81
8	513	11	38	92	220	152
9	855	15	48	196	346	250
10	1,161	15	90	289	401	366
11	951	7	64	229	376	275
12	1,005	10	68	227	391	309
13	1,032	11	64	230	414	313
14	1,005	6	68	233	392	306
15	1,007	3	51	277	438	238
16	1,004	8	58	278	413	247
17	853	2	66	198	344	243
18	604	4	19	115	259	207
19 and over	468	2	30	121	187	128

[1]Average of hearing levels in the better ear computed at 500, 1000 and 2000 cycles per second.

[2]Does not include 650 students for whom age was not reported.

months. The number of students with scores in each interval are given and the percentile rank for students in a given interval also is shown. This rank indicates the percentage of students who have attained scores in and below the given interval.

The tables also show, for each sub-test, grade equivalents for the 25th, 50th and 75th percentiles (also referred to as the first, second and third quartiles). Also given is the total number of students taking each sub-test, the mean grade equivalent for each sub-test and the standard error of the mean. The percentiles, means and standard errors were computed before the data were grouped in the one-half-year intervals shown. Thus, the values of these measures will differ slightly from those that would be obtained if computed from the grouped data.

Table G presents the ages for which results are given in the tables; the total number of students for the ages shown in the tables; the hearing loss threshold levels for students shown in the tables; and the number of students of all ages and hearing levels for whom test results were tabulated. The ages selected for presentation of results for each battery represent approximately 74 percent of the total number of students taking the battery. Within these age groupings for each battery, approximately 65 percent of the students had hearing loss threshold levels of 60 decibels and above, and approximately 7 percent had hearing loss thresholds under 60 decibels. It was not possible to determine hearing loss threshold levels for approximately 28 percent of the students within the selected age ranges for each battery.

It will be noted that no effort has been made here to discuss or interpret the data in the tables. Readers will observe differences in performance as measured by grade equivalents for sub-tests within a battery level. Some differences in performances between the students of various ages within battery levels also can be seen in the tables. Insofar as the authors are concerned, these and the many other observable relationships will provide direction for further inquiry and further analysis. Rigid interpretations and inflexible conclusions are not warranted at this time.

TABLE G: Age ranges for which results are given in the tables; the number and hearing threshold levels of students in these age ranges; and the number of students of all ages and hearing loss threshold levels for whom test results were tabulated.

Item	STANFORD ACHIEVEMENT TEST BATTERY				
	Primary I	Primary II	Intermediate I	Intermediate II	Advanced
Ages for which results are given in in the tables	7 - 11	10 - 14	12 - 16	13 - 17	15 - 19
Total number of students for ages shown in the tables	2226	1813	1373	1379	1649
Hearing threshold levels of students shown in the tables					
60 Decibels and over	1403	1098	897	888	1102
Under 60 Decibels	180	110	89	95	115
Unable to determine	643	605	387	396	432
Number of students of all ages and hearing loss threshold levels for whom test results were tabulated	3076	2521	1999	1870	2078

SUMMARY

Some background information about the Annual Survey of Hearing Impaired Children and Youth has been presented. One of the functions of the Annual Survey is to develop standard measuring instruments to assess the characteristics of hearing impaired children. As a step in this direction, an achievement testing program was conducted during the Spring of 1969. The results obtained are presented in this report.

A total of 70 schools and 39 classes for the hearing impaired participated in the Achievement Testing Program. Tests results were obtained for 12,000 students in these educational institutions. The Stanford Achievement Test Series was used in the program. This series was selected because it is the one most frequently used in educational institutions for the hearing impaired.

The qualifications, limitations and sources of the data have been discussed. Careful consideration of these sections is recommended for a proper understanding of the results of the testing program. In particular, it was pointed out that the Stanford Achievement Tests were developed for use by hearing students. Thus, when used among hearing impaired students many questions arise concerning the reliability and validity of test results. It also was noted that the data presented here should not be extrapolated to the entire universe of hearing impaired students. The findings are applicable only to the 12,000 participating students.

Despite the qualifications noted, the findings are published here because they are the most extensive body of data available on achievement test performance of hearing impaired individuals. The major utility of the test results lies in the directions they provide for more intensive study.

Aside from the the test results presented, the availability of the test materials will permit an intensive item analysis of the data and facilitate the development of achievement tests for the hearing impaired population. The Office of Demographic Studies invites interested researchers to join us in this effort.

Sincere appreciation is extended to all the schools and classes that have participated in the Annual Survey, thereby making possible the publication of this report.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table I-A-1 PRIMARY I BATTERY 7 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS													
	WORD READING		PARA-GRAPH MEANING		VOCABULARY		SPELLING		WORD STUDY SKILLS		ARITHMETIC		TOTAL [2] READING	
	[3] N	[4] PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
3.0 and Above	4	100	3	100	2	100	4	100	5	100	1	100	4	100
2.5 - 2.9	8	99	7	99	-	99	8	98	3	98	2	99	6	99
2.0 - 2.4	39	96	17	96	2	99	33	94	15	96	10	99	19	96
1.5 - 1.9	150	83	214	90	38	98	77	77	74	89	83	94	201	89
1.0 - 1.4	101	33	34	12	162	79	77	39	107	53	130	58	42	15
TOTAL STUDENTS	302		275		204		199		204		226		272	
75th Percentile	1.83		1.73		1.42		1.88		1.64		1.62		1.77	
50th Percentile	1.62		1.61		1.29		1.59		1.43		1.41		1.62	
25th Percentile	1.39		1.52		1.18		1.33		1.28		1.23		1.50	
MEAN	1.66		1.67		1.34		1.66		1.56		1.45		1.68	
STANDARD ERROR	.02		.02		.03		.03		.04		.02		.02	

[1] Includes students for whom the better ear averages could not be computed.

Table I-A-2 PRIMARY I BATTERY 7 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO) [5]

GRADE EQUIVALENT INTERVAL	SUB TESTS													
	WORD READING		PARA-GRAPH MEANING		VOCABULARY		SPELLING		WORD STUDY SKILLS		ARITHMETIC		TOTAL [2] READING	
	[3] N	[4] PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
3.0 and Above	1	100	1	100	-	-	2	100	2	100	-	-	2	100
2.5 - 2.9	4	99	4	99	-	-	3	98	2	98	1	100	2	99
2.0 - 2.4	21	97	7	97	-	-	18	96	7	97	6	99	12	98
1.5 - 1.9	99	86	139	93	22	100	50	81	51	91	47	95	126	91
1.0 - 1.4	62	33	22	13	97	82	50	41	65	51	77	59	30	17
TOTAL STUDENTS	187		173		119		123		127		131		172	
75th Percentile	1.77		1.70		1.41		1.79		1.62		1.60		1.72	
50th Percentile	1.60		1.60		1.28		1.54		1.44		1.40		1.61	
25th Percentile	1.39		1.51		1.17		1.31		1.29		1.23		1.49	
MEAN	1.63		1.64		1.29		1.60		1.55		1.44		1.65	
STANDARD ERROR	.03		.02		.02		.04		.05		.03		.02	

[2] Total Reading is derived from Word Meaning and Paragraph Meaning.
[3] N = The total number of students falling within the corresponding Grade Equivalent Interval.
[4] PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
[5] Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table I-B-1 PRIMARY I BATTERY 8 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS[1]

GRADE EQUIVALENT INTERVAL	SUB TESTS													
	WORD READING		PARA-GRAPH MEANING		VOCABULARY		SPELLING		WORD STUDY SKILLS		ARITHMETIC		TOTAL[2] READING	
	N[3]	PR[4]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
3.0 and Above	16	100	10	100	6	100	32	100	16	100	2	100	11	100
2.5 - 2.9	43	97	28	98	5	98	31	90	18	94	17	99	33	98
2.0 - 2.4	102	87	68	91	9	97	75	81	34	88	51	95	68	90
1.5 - 1.9	229	64	306	76	58	94	121	58	106	76	190	81	289	74
1.0 - 1.4	61	14	22	5	250	76	70	21	114	40	106	29	32	7
TOTAL STUDENTS	451		434		328		329		288		366		433	
75th Percentile	2.11		1.94		1.44		2.26		1.93		1.86		1.97	
50th Percentile	1.83		1.70		1.29		1.74		1.54		1.63		1.76	
25th Percentile	1.62		1.59		1.19		1.51		1.33		1.39		1.62	
MEAN	1.91		1.83		1.39		1.92		1.75		1.67		1.87	
STANDARD ERROR	.02		.02		.02		.04		.04		.02		.02	

[1] Includes students for whom the better ear averages could not be computed.

Table I-B-2 PRIMARY I BATTERY 8 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO)[5]

GRADE EQUIVALENT INTERVAL	SUB TESTS													
	WORD READING		PARA-GRAPH MEANING		VOCABULARY		SPELLING		WORD STUDY SKILLS		ARITHMETIC		TOTAL[2] READING	
	N[3]	PR[4]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
3.0 and Above	9	100	5	100	5	100	18	100	7	100	1	100	5	100
2.5 - 2.9	26	97	19	98	3	97	15	90	12	96	11	99	22	98
2.0 - 2.4	66	87	36	91	4	96	45	82	20	88	27	94	40	90
1.5 - 1.9	140	64	190	77	35	93	68	59	58	76	113	81	182	75
1.0 - 1.4	36	13	15	6	131	74	42	22	65	40	57	27	16	6
TOTAL STUDENTS	277		265		178		188		162		209		265	
75th Percentile	2.10		1.91		1.46		2.23		1.94		1.85		1.96	
50th Percentile	1.85		1.71		1.30		1.73		1.51		1.62		1.77	
25th Percentile	1.65		1.60		1.19		1.49		1.33		1.42		1.64	
MEAN	1.92		1.82		1.41		1.90		1.75		1.68		1.87	
STANDARD ERROR	.03		.02		.03		.05		.06		.03		.02	

[2] Total Reading is derived from Word Meaning and Paragraph Meaning.
[3] N = The total number of students falling within the corresponding Grade Equivalent Interval.
[4] PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
[5] Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table I-C-1 PRIMARY I BATTERY 9 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS													
	WORD READING		PARA-GRAPH MEANING		VOCABULARY		SPELLING		WORD STUDY SKILLS		ARITHMETIC		TOTAL [2] READING	
	[3] N	[4] PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
3.0 and Above	13	100	11	100	7	100	51	100	18	100	1	100	12	100
2.5 - 2.9	85	98	41	98	6	98	60	88	32	95	19	99	63	98
2.0 - 2.4	170	84	108	92	11	97	132	74	72	86	99	96	126	88
1.5 - 1.9	305	57	425	74	94	95	115	42	116	67	263	76	377	67
1.0 - 1.4	55	9	32	5	322	73	62	15	131	36	118	24	35	6
TOTAL STUDENTS	628		617		440		420		369		500		613	
75th Percentile	2.27		1.97		1.47		2.57		2.05		1.94		2.01	
50th Percentile	1.90		1.73		1.31		2.09		1.62		1.69		1.81	
25th Percentile	1.68		1.61		1.20		1.64		1.36		1.47		1.66	
MEAN	1.98		1.85		1.40		2.11		1.79		1.73		1.91	
STANDARD ERROR	.02		.02		.02		.03		.03		.02		.02	

1/ Includes students for whom the better ear averages could not be computed.

Table I-C-2 PRIMARY I BATTERY 9 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO) [5]

GRADE EQUIVALENT INTERVAL	SUB TESTS													
	WORD READING		PARA-GRAPH MEANING		VOCABULARY		SPELLING		WORD STUDY SKILLS		ARITHMETIC		TOTAL [2] READING	
	[3] N	[4] PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
3.0 and Above	7	100	8	100	6	100	36	100	16	100	-	-	8	100
2.5 - 2.9	56	98	30	98	4	98	39	86	20	93	13	100	42	98
2.0 - 2.4	111	85	65	91	8	96	79	72	50	85	70	96	76	88
1.5 - 1.9	203	58	285	75	55	94	76	42	70	65	172	74	254	69
1.0 - 1.4	35	8	17	4	205	74	35	13	88	36	66	21	23	6
TOTAL STUDENTS	412		405		278		265		244		321		403	
75th Percentile	2.26		1.96		1.47		2.59		2.06		1.97		2.09	
50th Percentile	1.90		1.73		1.31		2.07		1.62		1.71		1.80	
25th Percentile	1.68		1.61		1.20		1.64		1.36		1.51		1.66	
MEAN	1.97		1.86		1.42		2.13		1.81		1.75		1.91	
STANDARD ERROR	.02		.02		.03		.04		.04		.02		.02	

2/ Total Reading is derived from Word Meaning and Paragraph Meaning.
3/ N = The total number of students falling within the corresponding Grade Equivalent Interval.
4/ PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
5/ Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table I-D-1 PRIMARY I BATTERY 10 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS													
	WORD READING		PARA-GRAPH MEANING		VOCABULARY		SPELLING		WORD STUDY SKILLS		ARITHMETIC		TOTAL [2] READING	
	[3] N	[4] PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
3.0 and Above	26	100	8	100	7	100	42	100	11	100	2	100	15	100
2.5 - 2.9	99	95	50	99	6	98	56	88	28	97	24	99	60	97
2.0 - 2.4	157	78	131	90	16	97	132	73	79	88	108	94	151	86
1.5 - 1.9	238	50	351	66	113	93	97	36	114	63	259	71	313	59
1.0 - 1.4	41	7	13	2	268	65	32	9	86	27	67	15	12	2
TOTAL STUDENTS	561		553		410		359		318		460		551	
75th Percentile	2.38		2.04		1.52		2.59		2.10		2.00		2.20	
50th Percentile	1.95		1.78		1.35		2.18		1.76		1.77		1.86	
25th Percentile	1.73		1.64		1.22		1.72		1.43		1.56		1.69	
MEAN	2.07		1.90		1.46		2.18		1.84		1.80		1.98	
STANDARD ERROR	.02		.02		.02		.03		.04		.02		.02	

[1] Includes students for whom the better ear averages could not be computed.

Table I-D-2 PRIMARY I BATTERY 10 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO) [5]

GRADE EQUIVALENT INTERVAL	SUB TESTS													
	WORD READING		PARA-GRAPH MEANING		VOCABULARY		SPELLING		WORD STUDY SKILLS		ARITHMETIC		TOTAL [2] READING	
	[3] N	[4] PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
3.0 and Above	15	100	4	100	5	100	27	100	7	100	1	100	6	100
2.5 - 2.9	58	96	25	99	5	98	36	88	23	96	8	99	34	98
2.0 - 2.4	103	78	90	91	8	96	86	72	53	84	67	97	99	88
1.5 - 1.9	143	48	208	64	61	93	57	33	72	57	170	73	187	58
1.0 - 1.4	19	6	8	2	168	68	17	8	38	20	35	12	8	2
TOTAL STUDENTS	338		335		247		223		193		281		334	
75th Percentile	2.37		2.04		1.50		2.59		2.20		1.97		2.19	
50th Percentile	1.98		1.78		1.34		2.21		1.87		1.78		1.87	
25th Percentile	1.76		1.64		1.22		1.78		1.49		1.58		1.69	
MEAN	2.09		1.89		1.46		2.21		1.92		1.79		1.97	
STANDARD ERROR	.03		.02		.03		.04		.05		.02		.02	

[2] Total Reading is derived from Word Meaning and Paragraph Meaning.
[3] N = The total number of students falling within the corresponding Grade Equivalent Interval.
[4] PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
[5] Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table I-E-1 PRIMARY I BATTERY 11 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS													
	WORD READING		PARA-GRAPH MEANING		VOCABULARY		SPELLING		WORD STUDY SKILLS		ARITHMETIC		TOTAL [2] READING	
	[3] N	[4] PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
3.0 and Above	26	100	11	100	9	100	18	100	12	100	6	100	18	100
2.5 - 2.9	58	90	30	96	4	95	25	87	16	91	22	97	44	93
2.0 - 2.4	59	68	53	84	14	93	40	70	25	80	70	88	58	76
1.5 - 1.9	106	46	159	64	57	86	42	42	51	62	95	56	137	54
1.0 - 1.4	15	6	9	3	113	57	18	13	35	25	31	14	5	2
TOTAL STUDENTS	264		262		197		143		139		224		262	
75th Percentile	2.58		2.24		1.65		2.60		2.30		2.18		2.42	
50th Percentile	2.08		1.80		1.40		2.17		1.82		1.91		1.89	
25th Percentile	1.77		1.66		1.24		1.65		1.45		1.66		1.71	
MEAN	2.20		1.98		1.58		2.14		1.98		1.95		2.08	
STANDARD ERROR	.04		.03		.05		.05		.07		.03		.03	

[1] Includes students for whom the better ear averages could not be computed.

Table I-E-2 PRIMARY I BATTERY 11 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO) [5]

GRADE EQUIVALENT INTERVAL	SUB TESTS													
	WORD READING		PARA-GRAPH MEANING		VOCABULARY		SPELLING		WORD STUDY SKILLS		ARITHMETIC		TOTAL [2] READING	
	[3] N	[4] PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
3.0 and Above	13	100	6	100	8	100	8	100	3	100	3	100	8	100
2.5 - 2.9	34	93	16	97	1	94	18	92	12	97	12	98	28	96
2.0 - 2.4	46	74	38	88	9	93	29	73	19	84	47	90	40	80
1.5 - 1.9	75	48	111	66	36	86	28	42	36	63	66	60	98	57
1.0 - 1.4	12	7	7	4	76	58	12	13	23	25	26	17	4	2
TOTAL STUDENTS	180		178		130		95		93		154		178	
75th Percentile	2.48		2.14		1.67		2.57		2.24		2.13		2.37	
50th Percentile	2.00		1.78		1.40		2.18		1.80		1.88		1.86	
25th Percentile	1.75		1.64		1.23		1.63		1.45		1.61		1.70	
MEAN	2.14		1.94		1.60		2.11		1.87		1.90		2.04	
STANDARD ERROR	.04		.04		.06		.06		.07		.04		.04	

[2] Total Reading is derived from Word Meaning and Paragraph Meaning.
[3] N = The total number of students falling within the corresponding Grade Equivalent Interval.
[4] PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
[5] Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table II-A-1 PRIMARY II BATTERY 10 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS																			
	WORD READING		PARA-GRAPH MEANING		SCIENCE AND SOC. STD.		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
4.5 and Above	1	100	2	100	5	100	25	100	21	100	38	100	45	100	16	100	1	100	26	100
4.0 - 4.4	2	99	11	99	1	99	40	94	2	93	20	92	24	91	10	96	1	99	17	94
3.5 - 3.9	6	99	21	97	2	98	70	83	6	93	37	86	77	86	11	92	11	99	44	99
3.0 - 3.4	24	98	66	93	10	98	75	65	13	91	99	78	83	71	41	99	48	97	62	80
2.5 - 2.9	132	93	138	80	37	92	58	46	25	87	143	58	135	54	111	81	159	88	147	67
2.0 - 2.4	133	67	169	53	72	82	53	30	83	78	108	28	52	27	96	56	172	56	70	34
1.5 - 1.9	195	41	93	19	100	61	47	17	120	56	25	6	52	16	108	35	107	22	67	18
1.0 - 1.4	8	2	3	1	114	33	17	4	72	21	2	0	28	6	47	11	2	0	12	3
TOTAL STUDENTS	501		503		350		385		315		481		496		449		501		445	
75th Percentile	2.59		2.86		2.23		3.72		2.37		3.34		3.60		2.72		2.70		3.15	
50th Percentile	2.05		2.42		1.64		3.05		1.82		2.78		2.88		2.35		2.33		2.71	
25th Percentile	1.81		2.01		1.35		2.27		1.50		2.37		2.40		1.72		1.98		2.15	
MEAN	2.21		2.48		1.90		3.03		2.17		2.98		3.00		2.41		2.38		2.70	
STANDARD ERROR	.02		.03		.04		.05		.06		.04		.05		.04		.02		.04	

[1] Includes students for whom the better ear averages could not be computed.

Table II-A-2 PRIMARY II BATTERY 10 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO)[6]

GRADE EQUIVALENT INTERVAL	SUB TESTS																			
	WORD READING		PARA-GRAPH MEANING		SCIENCE AND SOC. STD.		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		TOTAL READING		TOTAL ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
4.5 and Above	1	100	1	100	3	100	20	100	13	100	23	100	23	100	9	100	1	100	13	100
4.0 - 4.4	-	99	6	99	-	99	22	91	2	94	16	92	12	92	13	97	-	99	9	95
3.5 - 3.9	5	99	12	98	1	99	41	82	4	93	18	87	41	88	4	92	7	99	23	92
3.0 - 3.4	13	98	40	94	9	98	40	64	9	91	66	80	57	75	16	91	30	97	36	84
2.5 - 2.9	77	94	81	81	25	94	30	47	15	87	92	58	86	56	71	85	89	87	99	71
2.0 - 2.4	88	68	104	54	49	82	33	30	55	80	62	26	36	27	61	59	115	58	43	35
1.5 - 1.9	115	39	59	19	61	59	25	16	73	54	15	5	30	15	67	37	61	20	45	29
1.0 - 1.4	4	1	-	-	66	31	12	5	43	20	-	-	16	5	37	13	-	-	10	4
TOTAL STUDENTS	303		303		214		232		214		202		301		278		303		278	
75th Percentile	2.58		2.84		2.23		3.69		2.36		3.30		3.47		2.64		2.69		3.01	
50th Percentile	2.05		2.41		1.76		3.01		1.84		2.81		2.86		2.27		2.30		2.67	
25th Percentile	1.82		2.01		1.34		2.28		1.52		2.41		2.37		1.67		1.99		2.12	
MEAN	2.21		2.47		1.91		3.05		2.14		2.98		2.93		2.32		2.38		2.71	
STANDARD ERROR	.03		.03		.06		.07		.07		.05		.05		.05		.03		.05	

[2] Total Reading is derived from Word Meaning and Paragraph Meaning.
[3] Total Arithmetic is derived from Arithmetic Computation and Arithmetic Concepts.
[4] N = The total number of students falling within the corresponding Grade Equivalent Interval.
[5] PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
[6] Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table II-B-1 PRIMARY II BATTERY 11 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS																			
	WORD READING		PARA-GRAPH MEANING		SCIENCE AND SOC. STD.		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
4.5 and Above	-	-	5	100	7	100	25	100	14	100	51	100	87	100	19	100	-	-	46	100
4.0 - 4.4	2	100	13	99	3	97	30	91	1	95	25	89	48	80	23	95	6	100	28	87
3.5 - 3.9	15	99	16	96	8	96	58	80	9	94	43	83	88	70	12	88	13	99	47	79
3.0 - 3.4	27	96	77	92	9	93	59	58	15	91	111	73	66	50	40	85	49	96	75	66
2.5 - 2.9	147	90	136	75	34	90	42	37	14	85	116	48	103	35	123	74	160	85	105	46
2.0 - 2.4	110	57	128	44	66	78	34	21	59	80	75	22	22	12	70	40	150	49	40	16
1.5 - 1.9	139	32	68	16	84	54	19	9	99	57	22	5	20	7	53	21	66	15	16	5
1.0 - 1.4	5	1	1	0	62	23	4	2	48	19	1	0	9	2	21	6	-	-	3	0
TOTAL STUDENTS	445		444		273		271		259		444		443		361		444		360	
75th Percentile	2.68		2.95		2.42		3.83		2.38		3.59		4.17		2.98		2.79		3.82	
50th Percentile	2.25		2.52		1.81		3.26		1.82		2.98		3.47		2.56		2.47		3.02	
25th Percentile	1.86		2.10		1.47		2.57		1.53		2.49		2.77		2.11		2.07		2.60	
MEAN	2.31		2.59		2.07		3.26		2.15		3.15		3.55		2.69		2.48		3.22	
STANDARD ERROR	.03		.03		.05		.06		.07		.05		.06		.05		.02		.05	

[1] Includes students for whom the better ear averages could not be computed.

Table II-B-2 PRIMARY II BATTERY 11 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO [6])

GRADE EQUIVALENT INTERVAL	SUB TESTS																			
	WORD READING		PARA-GRAPH MEANING		SCIENCE AND SOC. STD.		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
4.5 and Above	-	-	3	100	4	100	18	100	8	100	31	100	56	100	14	100	-	-	29	100
4.0 - 4.4	1	100	10	99	1	98	21	90	1	95	19	89	36	80	14	94	5	100	18	87
3.5 - 3.9	11	99	8	95	4	97	40	78	6	94	28	82	54	68	7	88	7	98	33	79
3.0 - 3.4	13	96	53	93	5	95	39	55	8	90	77	73	42	49	21	84	29	96	48	64
2.5 - 2.9	103	91	90	74	24	92	26	33	13	85	73	46	67	34	80	75	113	86	64	43
2.0 - 2.4	66	55	82	42	46	78	21	18	42	77	43	20	12	10	49	40	93	46	22	15
1.5 - 1.9	87	32	38	13	52	52	8	6	51	50	13	5	11	6	23	18	37	13	9	5
1.0 - 1.4	4	1	-	-	39	22	2	1	28	18	1	0	6	2	17	8	-	-	2	1
TOTAL STUDENTS	285		284		175		175		157		285		284		225		284		225	
75th Percentile	2.68		2.96		2.42		3.89		2.42		3.61		4.25		2.95		2.80		3.83	
50th Percentile	2.28		2.54		1.83		3.34		1.94		3.00		3.53		2.56		2.50		3.04	
25th Percentile	1.87		2.13		1.48		2.62		1.55		2.51		2.78		2.13		2.10		2.64	
MEAN	2.32		2.61		2.06		3.34		2.20		3.17		3.59		2.71		2.50		3.26	
STANDARD ERROR	.03		.04		.07		.07		.09		.05		.07		.07		.03		.06	

[2] Total Reading is derived from Word Meaning and Paragraph Meaning.
[3] Total Arithmetic is derived from Arithmetic Computation and Arithmetic Concepts.
[4] N = The total number of students falling within the corresponding Grade Equivalent Interval.
[5] PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
[6] Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table II-C-1 PRIMARY II BATTERY 12 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS																			
	WORD READING		PARA-GRAPH MEANING		SCIENCE AND SOC. STD.		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
4.5 and Above	1	100	4	100	8	100	18	100	9	100	37	100	93	100	25	100	1	100	45	100
4.0 - 4.4	1	99	17	99	3	97	22	92	4	96	25	90	29	76	21	92	5	99	39	85
3.5 - 3.9	13	99	10	95	9	96	48	82	8	94	41	84	71	68	6	85	16	98	29	23
3.0 - 3.4	26	96	54	92	10	92	41	60	8	90	91	73	61	49	38	83	31	94	61	63
2.5 - 2.9	98	89	129	78	31	88	41	41	18	86	102	49	88	33	94	71	140	86	82	43
2.0 - 2.4	118	64	124	44	52	75	27	22	49	77	72	22	15	10	52	40	132	50	26	16
1.5 - 1.9	119	33	43	12	73	54	17	10	83	54	12	3	13	6	48	23	56	15	21	8
1.0 - 1.4	6	2	1	0	57	24	5	2	29	14	-	-	11	3	23	8	1	3	3	1
TOTAL STUDENTS	382		382		243		219		208		380		381		307		382		306	
75th Percentile	2.62		2.89		2.55		3.81		2.42		3.60		4.39		3.03		2.71		4.03	
50th Percentile	2.12		2.51		1.82		3.13		1.86		2.98		3.48		2.59		2.46		3.08	
25th Percentile	1.86		2.11		1.47		2.51		1.58		2.48		2.81		2.08		2.08		2.60	
MEAN	2.28		2.58		2.10		3.19		2.18		3.17		3.65		2.74		2.48		3.32	
STANDARD ERROR	.03		.03		.06		.06		.07		.05		.06		.06		.03		.03	

1/ Includes students for whom the better ear averages could not be computed.

Table II-C-2 PRIMARY II BATTERY 12 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO) [6]

GRADE EQUIVALENT INTERVAL	SUB TESTS																			
	WORD READING		PARA-GRAPH MEANING		SCIENCE AND SOC. STD.		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
4.5 and Above	-	-	2	100	2	100	7	100	5	100	15	100	41	100	7	100	-	-	15	100
4.0 - 4.4	1	100	6	99	2	99	12	94	3	96	13	93	18	81	9	96	3	100	23	91
3.5 - 3.9	4	99	5	96	4	97	26	85	2	93	19	87	38	73	3	91	6	99	16	78
3.0 - 3.4	13	98	20	94	6	94	26	65	4	91	52	79	36	56	17	89	13	96	29	69
2.5 - 2.9	55	92	81	85	14	90	29	44	8	88	63	55	62	40	54	79	81	90	56	52
2.0 - 2.4	72	67	81	48	31	80	18	21	32	81	49	26	9	12	35	48	81	53	18	20
1.5 - 1.9	72	34	26	12	42	58	7	7	50	53	9	4	9	8	34	28	37	17	15	10
1.0 - 1.4	4	2	-	-	38	27	2	2	10	9	-	-	8	4	15	9	-	-	2	1
TOTAL STUDENTS	221		221		139		127		114		220		221		174		221		174	
75th Percentile	2.55		2.69		2.21		3.71		2.39		3.39		4.14		2.81		2.61		3.72	
50th Percentile	2.09		2.46		1.79		3.07		1.89		2.82		3.22		2.48		2.39		2.85	
25th Percentile	1.84		2.07		1.41		2.54		1.61		2.43		2.72		1.74		2.05		2.52	
MEAN	2.23		2.49		1.9		3.13		2.19		2.99		3.44		2.51		2.41		3.11	
STANDARD ERROR	.03		.04		.07		.07		.09		.06		.08		.07		.03		.07	

2/ Total Reading is derived from Word Meaning and Paragraph Meaning.
3/ Total Arithmetic is derived from Arithmetic Computation and Arithmetic Concepts.
4/ N = The total number of students failing within the corresponding Grade Equivalent Interval.
5/ PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
6/ Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table II-D-1 PRIMARY II BATTERY 13 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS																			
	WORD READING		PARA-GRAPH MEANING		SCIENCE AND SOC. STD.		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
4.5 and Above	1	100	4	100	3	100	14	100	3	100	31	100	75	100	19	100	3	100	42	100
4.0 - 4.4	3	99	6	99	1	98	10	90	3	98	16	89	28	73	13	91	3	99	27	81
3.5 - 3.9	10	99	10	96	3	98	36	82	2	95	32	83	56	63	10	86	10	98	24	69
3.0 - 3.4	17	95	48	93	11	96	29	55	5	94	69	72	50	43	26	81	24	94	42	58
2.5 - 2.9	79	89	101	76	28	89	18	34	7	90	60	47	39	25	77	69	113	86	58	39
2.0 - 2.4	89	60	83	39	46	73	18	20	26	85	55	25	14	11	39	34	94	45	17	12
1.5 - 1.9	77	28	24	9	50	46	5	7	58	64	15	6	9	6	24	17	29	11	9	5
1.0 - 1.4	2	1	1	0	27	16	4	3	25	19	1	0	7	3	13	6	1	0	1	1
TOTAL STUDENTS	278		277		169		134		129		279		278		221		277		220	
75th Percentile	2.67		2.94		2.58		3.81		2.19		3.64		4.53		3.13		2.80		4.26	
50th Percentile	2.26		2.59		2.01		3.39		1.72		3.02		3.63		2.63		2.50		3.19	
25th Percentile	1.90		2.22		1.57		2.63		1.50		2.44		2.95		2.29		2.16		2.77	
MEAN	2.33		2.64		2.12		3.28		1.98		3.16		3.78		2.80		2.54		3.43	
STANDARD ERROR	.03		.04		.06		.08		.07		.06		.07		.06		.03		.07	

[1] Includes students for whom the better ear averages could not be computed.

Table II-D-2 PRIMARY II BATTERY 13 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO)[6]

GRADE EQUIVALENT INTERVAL	SUB TESTS																			
	WORD READING		PARA-GRAPH MEANING		SCIENCE AND SOC. STD.		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
4.5 and Above	-	-	-	-	-	-	3	100	2	100	10	100	42	100	7	100	-	-	16	100
4.0 - 4.4	-	-	3	100	1	100	6	96	-	97	12	94	16	73	7	94	1	100	21	87
3.5 - 3.9	5	100	7	98	1	99	27	88	-	97	16	86	33	63	7	89	5	99	10	70
3.0 - 3.4	11	97	26	94	7	98	15	53	3	97	44	76	20	42	17	83	15	96	25	62
2.5 - 2.9	47	90	58	77	21	91	12	33	5	94	35	48	27	29	38	69	65	87	35	41
2.0 - 2.4	50	60	48	40	26	71	8	17	19	87	28	25	7	12	27	39	53	45	7	13
1.5 - 1.9	42	28	13	9	27	47	3	7	39	63	11	8	6	7	11	17	16	11	8	7
1.0 - 1.4	2	1	1	1	22	21	2	3	11	14	1	1	5	3	10	8	1	1	1	1
TOTAL STUDENTS	157		156		105		76		79		157		156		124		156		123	
75th Percentile	2.67		2.93		2.58		3.75		2.25		3.44		4.53		3.08		2.78		4.11	
50th Percentile	2.27		2.59		2.02		3.42		1.74		2.99		3.64		2.63		2.50		3.13	
25th Percentile	1.90		2.21		1.51		2.79		1.55		2.43		2.89		2.14		2.15		2.69	
MEAN	2.31		2.60		2.07		3.24		1.95		3.04		3.72		2.72		2.51		3.33	
STANDARD ERROR	.04		.04		.06		.09		.08		.07		.10		.08		.04		.08	

[2] Total Reading is derived from Word Meaning and Paragraph Meaning.
[3] Total Arithmetic is derived from Arithmetic Computation and Arithmetic Concepts.
[4] N = The total number of students falling within the corresponding Grade Equivalent Interval.
[5] PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
[6] Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table II-E-1 PRIMARY II BATTERY 14 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS[1/]

GRADE EQUIVALENT INTERVAL	SUB TESTS																			
	WORD READING		PARA-GRAPH MEANING		SCIENCE AND SOC. STD.		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		TOTAL[2/] READING		TOTAL[3/] ARITH-METIC	
	N[4/]	PR[5/]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
4.5 and Above	-	-	-	-	-	-	1	100	-	-	11	100	54	100	3	100	-	-	16	100
4.0 - 4.4	1	100	1	100	2	100	7	99	1	100	12	95	29	73	11	98	-	-	24	90
3.5 - 3.9	4	99	5	99	2	98	22	91	2	99	19	89	40	59	5	91	4	100	36	75
3.0 - 3.4	7	98	31	97	4	97	15	66	2	96	43	79	23	39	20	88	15	98	23	53
2.5 - 2.9	77	94	74	82	23	93	20	49	4	94	53	58	36	27	62	76	82	91	42	39
2.0 - 2.4	57	56	67	45	27	74	13	27	16	89	50	32	6	10	20	38	75	50	11	13
1.5 - 1.9	55	28	24	12	40	52	6	12	42	70	12	7	8	7	25	26	26	13	8	6
1.0 - 1.4	1	1	-	-	23	19	5	6	15	18	2	1	5	3	17	10	-	-	2	1
TOTAL STUDENTS	202		202		121		89		82		202		201		163		202		162	
75th Percentile	2.65		2.88		2.56		3.53		2.00		3.34		4.49		2.91		2.72		3.94	
50th Percentile	2.29		2.49		1.83		2.96		1.68		2.73		3.74		2.56		2.45		3.38	
25th Percentile	1.92		2.12		1.52		2.42		1.50		2.31		2.91		1.93		2.13		2.67	
MEAN	2.31		2.52		2.02		2.96		1.84		2.91		3.74		2.55		2.45		3.33	
STANDARD ERROR	.03		.03		.06		.09		.06		.06		.08		.06		.03		.07	

1/ Includes students for whom the better ear averages could not be computed.

Table II-E-2 PRIMARY II BATTERY 14 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO)[6/]

GRADE EQUIVALENT INTERVAL	SUB TESTS																			
	WORD READING		PARA-GRAPH MEANING		SCIENCE AND SOC. STD.		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		TOTAL[2/] READING		TOTA[3/] ARITH-METIC	
	N[4/]	PR[5/]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
4.5 and Above	-	-	-	-	-	-	-	-	-	-	8	100	40	100	2	100	-	-	13	100
4.0 - 4.4	1	100	1	100	2	100	5	100	1	100	7	94	21	69	9	98	-	-	17	88
3.5 - 3.9	4	99	4	99	2	98	16	91	1	98	9	89	20	53	4	90	4	100	23	72
3.0 - 3.4	4	96	14	96	3	95	6	62	2	96	25	82	14	38	12	86	9	97	10	51
2.5 - 2.9	51	93	50	85	13	91	16	51	2	93	36	62	23	27	37	75	49	90	31	41
2.0 - 2.4	31	54	47	47	17	75	7	22	12	89	38	35	5	9	12	40	49	52	7	12
1.5 - 1.9	38	30	14	11	27	54	2	9	27	68	6	5	4	5	18	29	19	15	4	6
1.0 - 1.4	1	1	-	-	17	21	3	6	11	20	1	1	3	2	13	12	-	-	2	2
TOTAL STUDENTS	130		130		81		55		56		130		130		107		130		107	
75th Percentile	2.67		2.79		2.44		3.56		2.02		3.31		4.54		2.96		2.70		4.11	
50th Percentile	2.29		2.48		1.80		2.94		1.71		2.67		3.88		2.56		2.43		3.44	
25th Percentile	1.88		2.12		1.48		2.50		1.50		2.26		2.92		1.86		2.12		2.66	
MEAN	2.31		2.50		2.01		3.01		1.88		2.87		3.83		2.54		2.44		3.37	
STANDARD ERROR	.04		.04		.08		.10		.08		.07		.10		.08		.04		.09	

2/ Total Reading is derived from Word Meaning and Paragraph Meaning.
3/ Total Arithmetic is derived from Arithmetic Computation and Arithmetic Concepts.
4/ N = The total number of students falling within the corresponding Grade Equivalent Interval.
5/ PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
6/ Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table III-A-1 INTERMEDIATE I BATTERY 12 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS																					
	WORD MEANING		PARA-GRAPH MEANING		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		ARITH. APPLI-CATIONS		SCIENCE		SOCIAL STUDIES		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
5.5 and Above	8	100	9	100	50	100	11	100	11	100	41	100	39	100	22	100	8	100	24	100	7	100	28	100
5.0 - 5.4	3	97	6	96	32	80	4	95	9	96	34	83	15	84	13	91	11	97	21	90	6	97	18	88
4.5 - 4.9	9	96	8	94	41	67	5	93	12	92	38	69	22	78	16	86	25	92	34	81	9	95	27	81
4.0 - 4.4	14	92	25	91	41	50	7	90	19	87	28	54	29	69	30	79	39	81	43	67	16	91	46	70
3.5 - 3.9	79	86	34	80	26	33	5	87	37	79	46	42	22	57	36	67	84	65	84	49	54	84	38	51
3.0 - 3.4	79	53	67	66	29	22	16	84	53	64	20	23	38	48	64	52	61	30	28	13	88	62	41	35
2.5 - 2.9	43	21	80	39	20	11	42	76	78	42	25	15	36	32	48	25	8	4	3	2	55	26	33	18
2.4 and Below	7	3	15	6	6	2	111	55	25	10	12	5	43	18	13	5	1	0	1	0	7	3	11	5
TOTAL STUDENTS	242		244		245		201		244		244		244		242		237		238		242		242	
75th Percentile	3.77		3.76		5.30		2.92		3.78		5.15		4.78		4.18		4.13		4.65		3.72		4.69	
50th Percentile	3.32		3.12		4.45		2.40		3.13		4.33		3.57		3.43		3.70		3.98		3.22		3.90	
25th Percentile	3.00		2.79		3.58		2.13		2.68		3.49		2.66		2.95		3.37		3.52		2.94		3.18	
MEAN	3.48		3.37		4.62		2.76		3.34		4.36		3.79		3.75		3.88		4.21		3.44		4.02	
STANDARD ERROR	.05		.06		.10		.08		.07		.09		.09		.07		.06		.06		.05		.07	

[1] Includes students for whom the better ear averages could not be computed.

Table III-A-2 INTERMEDIATE I BATTERY 12 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO) [6]

GRADE EQUIVALENT INTERVAL	SUB TESTS																					
	WORD MEANING		PARA-GRAPH MEANING		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		ARITH. APPLI-CATIONS		SCIENCE		SOCIAL STUDIES		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
5.5 and Above	5	100	5	100	33	100	7	100	7	100	26	100	26	100	16	100	4	100	13	100	4	100	19	100
5.0 - 5.4	3	97	4	97	20	79	2	95	7	96	22	84	12	84	9	90	9	97	14	92	5	98	13	88
4.5 - 4.9	3	95	6	94	33	67	4	93	10	91	28	70	14	76	11	84	18	92	23	83	5	94	17	80
4.0 - 4.4	8	93	18	91	26	46	6	90	12	85	22	52	18	67	16	77	23	80	31	68	9	91	28	69
3.5 - 3.9	54	88	22	79	18	30	4	85	26	77	29	38	17	56	25	67	56	65	57	48	35	85	30	51
3.0 - 3.4	55	54	38	65	14	18	13	82	32	61	13	20	24	45	42	51	42	30	17	12	62	63	24	31
2.5 - 2.9	24	19	57	42	11	9	27	72	52	41	10	11	23	30	29	24	3	3	1	1	34	24	18	16
2.4 and Below	5	3	9	6	4	3	67	52	12	8	8	5	24	15	8	5	1	1	1	1	3	2	7	5
TOTAL STUDENTS	157		159		159		130		158		158		158		156		156		157		157		156	
75th Percentile	3.71		3.77		5.31		3.07		3.83		5.17		4.82		4.18		4.25		4.62		3.71		4.73	
50th Percentile	3.32		3.14		4.55		2.44		3.23		4.40		3.60		3.44		3.69		3.99		3.21		3.93	
25th Percentile	3.01		2.79		3.70		2.16		2.75		3.56		2.68		2.96		3.39		3.53		2.97		3.28	
MEAN	3.45		3.35		4.71		2.81		3.42		4.43		3.84		3.79		3.87		4.18		3.41		4.07	
STANDARD ERROR	.06		.07		.12		.10		.08		.11		.11		.09		.06		.07		.06		.09	

[2] Total Reading is derived from Word Meaning and Paragraph Meaning.
[3] Total Arithmetic is derived from Arithmetic Computation, Arithmetic Concepts, and Arithmetic Applications.
[4] N = The total number of students falling within the corresponding Grade Equivalent Interval.
[5] PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
[6] Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table III-B-1 INTERMEDIATE I BATTERY 13 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS																					
	WORD MEANING		PARA-GRAPH MEANING		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		ARITH. APPLI-CATIONS		SCIENCE		SOCIAL STUDIES		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
5.5 and Above	3	100	11	100	72	100	15	100	17	100	82	100	64	100	38	100	16	100	38	100	9	100	53	100
5.0 - 5.4	8	99	5	97	35	77	3	93	14	95	47	74	29	80	21	88	16	95	37	88	4	97	29	83
4.5 - 4.9	27	97	11	95	47	66	5	91	23	90	49	59	21	70	20	81	31	90	40	76	13	96	38	74
4.0 - 4.4	17	88	38	91	49	51	9	89	33	83	36	43	31	64	41	75	49	80	59	63	39	92	46	61
3.5 - 3.9	91	82	50	79	51	35	6	85	39	72	49	31	18	54	36	62	109	64	92	44	50	79	53	47
3.0 - 3.4	103	53	69	63	42	19	16	82	67	60	24	16	41	48	85	50	75	29	42	14	112	63	52	30
2.5 - 2.9	58	20	105	41	15	6	29	74	88	38	17	8	55	35	57	23	14	5	2	1	79	28	34	13
2.4 and Below	6	2	25	8	3	1	123	60	31	10	8	3	54	17	14	5	-	-	-	-	7	2	6	2
TOTAL STUDENTS	313		314		314		206		312		312		313		312		310		310		313		311	
75th Percentile	3.81		3.78		5.33		3.01		4.09		5.59		5.20		4.57		4.30		4.83		3.82		5.07	
50th Percentile	3.30		3.11		4.42		2.37		3.25		4.64		3.59		3.55		3.75		4.10		3.22		4.13	
25th Percentile	3.01		2.79		3.61		2.10		2.75		3.78		2.54		2.98		3.36		3.54		2.92		3.30	
MEAN	3.49		3.37		4.68		2.80		3.50		4.74		3.90		3.89		3.93		4.32		3.43		4.25	
STANDARD ERROR	.04		.05		.08		.08		.06		.08		.08		.07		.05		.06		.04		.07	

[1] Includes students for whom the better ear averages could not be computed.

Table III-B-2 INTERMEDIATE I BATTERY 13 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO) [6]

GRADE EQUIVALENT INTERVAL	SUB TESTS																					
	WORD MEANING		PARA-GRAPH MEANING		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		ARITH. APPLI-CATIONS		SCIENCE		SOCIAL STUDIES		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
5.5 and Above	3	100	9	100	53	100	8	100	14	100	59	100	50	100	29	100	13	100	27	100	8	100	40	100
5.0 - 5.4	8	99	3	96	25	76	3	95	10	94	37	73	20	78	18	87	14	94	31	88	3	96	23	82
4.5 - 4.9	19	95	8	95	35	65	3	92	16	89	36	57	15	69	14	79	22	88	27	74	8	95	29	72
4.0 - 4.4	11	86	28	91	30	49	4	90	25	82	26	41	22	62	29	73	33	78	45	62	30	91	30	59
3.5 - 3.9	66	81	33	78	36	36	6	88	31	71	30	29	11	52	21	60	74	63	60	41	35	78	37	45
3.0 - 3.4	75	52	51	64	28	19	13	83	42	57	16	15	25	47	63	50	55	29	29	14	79	62	33	28
2.5 - 2.9	36	18	73	41	12	7	21	75	60	38	11	8	41	36	38	22	10	5	2	1	55	26	25	14
2.4 and Below	3	1	17	8	3	1	87	60	23	10	7	3	38	17	10	5	-	-	-	-	3	1	5	2
TOTAL STUDENTS	221		222		222		145		221		222		222		222		221		221		221		222	
75th Percentile	3.85		3.78		5.37		2.97		4.15		5.60		5.37		4.69		4.35		4.98		3.84		5.14	
50th Percentile	3.33		3.13		4.55		2.34		3.29		4.81		3.61		3.55		3.78		4.17		3.25		4.19	
25th Percentile	3.04		2.78		3.60		2.11		2.74		3.86		2.54		2.99		3.34		3.56		2.93		3.34	
MEAN	3.54		3.39		4.71		2.74		3.54		4.78		3.96		3.94		3.95		4.38		3.46		4.30	
STANDARD ERROR	.05		.06		.10		.09		.08		.09		.10		.09		.06		.07		.05		.08	

[2] Total Reading is derived from Word Meaning and Paragraph Meaning.
[3] Total Arithmetic is derived from Arithmetic Computation, Arithmetic Concepts, and Arithmetic Applications.
[4] N = The total number of students falling within the corresponding Grade Equivalent Interval.
[5] PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
[6] Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table III-C-1 INTERMEDIATE I BATTERY 14 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS[1/]

GRADE EQUIVALENT INTERVAL	SUB TESTS																							
	WORD MEANING		PARA-GRAPH MEANING		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		ARITH. APPLI-CATIONS		SCIENCE		SOCIAL STUDIES		TOTAL[2/] READING		TOTAL[3/] ARITH-METIC	
	N[4/]	PR[5/]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
5.5 and Above	1	100	3	100	54	100	2	100	10	100	89	100	42	100	19	100	3	100	19	100	2	100	36	100
5.0 - 5.4	8	99	6	99	42	82	3	99	16	97	51	70	37	86	19	94	8	99	44	94	4	99	50	88
4.5 - 4.9	15	97	8	97	67	67	7	97	14	91	41	52	38	73	20	87	25	96	45	79	11	98	41	70
4.0 - 4.4	23	92	30	94	53	45	6	94	29	86	43	38	32	60	48	80	62	88	63	63	22	94	50	56
3.5 - 3.9	104	84	47	84	39	27	9	91	41	77	42	24	16	49	65	64	110	67	90	42	75	87	44	39
3.0 - 3.4	100	49	72	68	21	13	15	86	83	63	13	10	43	44	71	41	72	29	31	11	107	61	44	24
2.5 - 2.9	41	15	98	44	16	6	38	78	78	34	11	5	47	29	43	17	14	5	2	1	69	25	21	9
2.4 and Below	2	1	30	10	2	1	111	58	23	8	4	1	37	13	7	2	-	-	-	-	4	1	5	2
TOTAL STUDENTS	294		294		294		191		294		294		292		292		294		294		294		291	
75th Percentile	3.82		3.67		5.28		2.79		3.85		5.71		4.99		4.20		4.11		4.79		3.73		5.05	
50th Percentile	3.47		3.08		4.57		2.37		3.25		4.85		3.97		3.63		3.74		4.10		3.25		4.31	
25th Percentile	3.08		2.77		3.88		1.99		2.77		3.98		2.70		3.17		3.37		3.69		2.95		3.54	
MEAN	3.51		3.25		4.70		2.58		3.43		4.97		3.92		3.83		3.79		4.26		3.38		4.30	
STANDARD ERROR	.04		.04		.08		.07		.05		.08		.08		.06		.04		.05		.04		.06	

1/ Includes students for whom the better ear averages could not be computed.

Table III-C-2 INTERMEDIATE I BATTERY 14 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO)[6/]

GRADE EQUIVALENT INTERVAL	SUB TESTS																							
	WORD MEANING		PARA-GRAPH MEANING		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		ARITH. APPLI-CATIONS		SCIENCE		SOCIAL STUDIES		TOTAL[2/] READING		TOTAL[3/] ARITH-METIC	
	N[4/]	PR[5/]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
5.5 and Above	-	-	2	100	30	100	1	100	7	100	38	100	28	100	11	100	2	100	11	100	2	100	17	100
5.0 - 5.4	4	100	1	99	22	83	-	99	9	96	35	78	26	84	11	94	5	99	26	94	-	99	27	90
4.5 - 4.9	9	98	4	98	42	70	1	99	7	91	28	58	18	69	10	87	13	96	23	79	5	99	29	74
4.0 - 4.4	13	93	18	96	32	46	5	98	14	87	25	42	15	58	30	82	40	89	38	66	12	96	26	58
3.5 - 3.9	57	85	24	86	23	28	6	93	26	79	27	28	9	50	37	64	60	66	52	44	44	89	24	42
3.0 - 3.4	62	52	43	72	10	14	9	88	52	64	10	12	25	45	43	43	45	31	23	14	63	64	30	29
2.5 - 2.9	27	17	60	47	14	9	25	79	43	34	7	6	23	30	26	18	9	5	1	1	46	28	15	11
2.4 and Below	2	1	22	13	1	1	59	56	16	9	4	2	29	17	5	3	-	-	-	-	2	1	4	2
TOTAL STUDENTS	174		174		174		106		174		174		173		173		174		174		174		172	
75th Percentile	3.78		3.62		5.18		2.79		3.80		5.39		5.16		4.18		4.12		4.80		3.71		4.97	
50th Percentile	3.33		3.03		4.55		2.40		3.23		4.62		3.96		3.62		3.73		4.08		3.21		4.29	
25th Percentile	3.04		2.76		3.84		2.08		2.77		3.80		2.66		3.17		3.32		3.60		2.92		3.40	
MEAN	3.47		3.20		4.62		2.58		3.41		4.76		3.93		3.82		3.78		4.24		3.33		4.23	
STANDARD ERROR	.05		.06		.09		.07		.07		.10		.10		.08		.05		.06		.04		.08	

2/ Total Reading is derived from Word Meaning and Paragraph Meaning.
3/ Total Arithmetic is derived from Arithmetic Computation, Arithmetic Concepts, and Arithmetic Applications.
4/ N = The total number of students falling within the corresponding Grade Equivalent Interval.
5/ PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
6/ Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table III-D-1 INTERMEDIATE I BATTERY 15 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS																							
	WORD MEANING		PARA-GRAPH MEANING		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		ARITH. APPLI-CATIONS		SCIENCE		SOCIAL STUDIES		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
5.5 and Above	-	-	3	100	55	100	3	100	11	100	116	100	41	100	26	100	5	100	23	100	1	100	48	100
5.0 - 5.4	4	100	1	99	45	81	1	98	7	96	58	59	58	86	15	91	11	98	53	92	4	99	54	83
4.5 - 4.9	18	99	10	99	57	65	2	98	21	94	22	39	28	65	27	86	23	94	45	73	8	98	44	64
4.0 - 4.4	15	92	33	95	57	45	6	97	23	86	35	32	26	55	40	76	65	86	58	58	31	95	45	49
3.5 - 3.9	111	87	43	84	35	25	9	94	33	78	29	19	12	46	76	62	99	64	77	37	61	85	43	33
3.0 - 3.4	93	48	80	69	17	13	12	89	90	67	8	9	44	42	55	35	71	29	30	11	115	63	31	18
2.5 - 2.9	43	16	94	41	17	7	36	83	82	36	11	6	40	27	41	16	12	4	-	-	56	23	12	7
2.4 and Below	2	1	22	8	4	1	123	64	20	7	7	2	36	13	5	2	-	-	-	-	9	3	8	3
TOTAL STUDENTS	286		286		287		192		287		286		285		285		286		286		285		285	
75th Percentile	3.78		3.69		5.33		2.71		3.78		6.07		5.16		4.42		4.17		4.97		3.70		5.21	
50th Percentile	3.47		3.10		4.56		2.31		3.21		5.26		4.26		3.80		3.76		4.23		3.25		4.50	
25th Percentile	3.08		2.79		3.92		2.01		2.80		4.28		2.72		3.21		3.38		3.77		2.97		3.75	
MEAN	3.48		3.25		4.67		2.50		3.41		5.30		4.03		3.95		3.83		4.37		3.36		4.48	
STANDARD ERROR	.03		.04		.08		.06		.05		.09		.08		.06		.04		.05		.03		.06	

1/ Includes students for whom the better ear averages could not be computed.

Table III-D-2 INTERMEDIATE I BATTERY 15 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO) [6]

GRADE EQUIVALENT INTERVAL	SUB TESTS																							
	WORD MEANING		PARA-GRAPH MEANING		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		ARITH. APPLI-CATIONS		SCIENCE		SOCIAL STUDIES		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
5.5 and Above	-	-	3	100	37	100	1	100	9	100	78	100	34	100	20	100	4	100	15	100	1	100	36	100
5.0 - 5.4	3	100	-	98	26	81	1	99	5	95	34	59	37	82	7	90	6	98	37	92	3	99	34	81
4.5 - 4.9	10	98	8	98	33	67	1	98	12	93	15	41	18	63	18	86	13	95	29	73	5	98	29	63
4.0 - 4.4	4	93	19	94	41	50	2	98	15	86	20	33	14	53	27	76	50	88	36	57	18	95	25	48
3.5 - 3.9	73	91	25	84	28	28	7	96	22	79	25	23	11	46	54	62	58	62	52	38	36	86	29	35
3.0 - 3.4	67	53	56	71	10	14	7	90	58	67	6	10	25	40	35	34	49	31	21	11	84	67	22	20
2.5 - 2.9	32	18	64	42	12	8	27	85	53	37	7	6	25	27	26	15	10	5	-	-	37	23	9	8
2.4 and Below	2	1	16	8	4	2	78	63	17	9	5	3	26	14	3	2	-	-	-	-	7	4	6	3
TOTAL STUDENTS	191		191		191		124		191		190		190		190		190		190		191		190	
75th Percentile	3.70		3.62		5.30		2.70		3.74		6.09		5.20		4.41		4.17		4.99		3.66		5.26	
50th Percentile	3.32		3.08		4.46		2.36		3.20		5.23		4.29		3.82		3.77		4.23		3.22		4.55	
25th Percentile	3.06		2.78		3.78		2.16		2.78		4.09		2.71		3.23		3.34		3.74		2.97		3.71	
MEAN	3.42		3.24		4.60		2.52		3.40		5.30		4.08		3.99		3.81		4.37		3.33		4.49	
STANDARD ERROR	.04		.05		.09		.06		.07		.12		.10		.08		.04		.06		.04		.08	

2/ Total Reading is derived from Word Meaning and Paragraph Meaning.
3/ Total Arithmetic is derived from Arithmetic Computation, Arithmetic Concepts, and Arithmetic Applications.
4/ N = The total number of students falling within the corresponding Grade Equivalent Interval.
5/ PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
6/ Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table III-E-1 INTERMEDIATE I BATTERY 16 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS																					
	WORD MEANING		PARA-GRAPH MEANING		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		ARITH. APPLI-CATIONS		SCIENCE		SOCIAL STUDIES		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
5.5 and Above	1	100	1	100	56	100	2	100	6	100	91	100	41	100	19	100	4	100	21	100	1	100	45	100
5.0 - 5.4	4	99	1	99	32	76	-	99	8	97	42	60	31	82	18	92	4	98	37	91	1	99	37	80
4.5 - 4.9	6	98	7	99	37	62	4	99	19	94	21	42	27	69	28	84	22	97	37	75	7	99	38	64
4.0 - 4.4	17	95	25	96	37	46	2	96	26	86	23	33	27	57	33	72	50	87	57	59	19	96	31	48
3.5 - 3.9	95	88	41	85	31	30	7	95	28	75	29	23	16	46	42	58	88	65	55	34	51	88	30	34
3.0 - 3.4	66	47	64	68	22	17	6	91	59	63	12	10	38	39	51	40	53	27	23	10	98	66	28	21
2.5 - 2.9	38	19	74	40	15	7	32	87	63	37	7	5	25	22	37	18	9	4	1	0	51	24	17	9
2.4 and Below	5	2	19	8	2	1	109	67	23	10	5	2	26	11	4	2	-	-	-	-	4	2	3	1
TOTAL STUDENTS	232		232		232		162		232		230		231		232		230		231		232		229	
75th Percentile	3.75		3.73		5.43		2.56		3.96		6.10		5.21		4.65		4.14		4.95		3.68		5.27	
50th Percentile	3.48		3.07		4.57		2.22		3.26		5.19		4.02		3.84		3.74		4.23		3.25		4.53	
25th Percentile	3.09		2.78		3.74		1.93		2.78		4.03		2.98		3.04		3.42		3.71		2.96		3.71	
MEAN	3.47		3.23		4.74		2.38		3.43		5.27		4.09		3.94		3.82		4.35		3.35		4.48	
STANDARD ERROR	.04		.04		.09		.06		.07		.11		.09		.07		.04		.05		.04		.07	

[1] Includes students for whom the better ear averages could not be computed.

Table III-E-2 INTERMEDIATE I BATTERY 16 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO) [6]

GRADE EQUIVALENT INTERVAL	SUB TESTS																					
	WORD MEANING		PARA-GRAPH MEANING		SPELLING		WORD STUDY SKILLS		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		ARITH. APPLI-CATIONS		SCIENCE		SOCIAL STUDIES		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
5.5 and Above	1	100	1	100	41	100	1	100	5	100	58	100	30	100	16	100	3	100	16	100	1	100	34	100
5.0 - 5.4	3	99	1	99	20	73	-	99	8	97	25	61	21	80	13	89	2	98	26	89	1	99	21	77
4.5 - 4.9	4	97	4	99	25	60	3	99	10	91	15	44	21	66	19	81	18	97	23	72	5	99	22	63
4.0 - 4.4	11	95	17	96	25	43	2	96	17	85	15	34	15	52	20	68	31	85	39	57	14	95	23	48
3.5 - 3.9	56	87	28	85	18	27	4	94	19	74	19	24	13	42	25	55	60	64	32	31	28	86	19	32
3.0 - 3.4	46	50	38	66	12	15	5	90	45	61	9	11	22	33	33	38	31	24	13	9	65	68	16	20
2.5 - 2.9	26	20	52	41	8	7	17	85	32	31	3	5	13	19	23	17	4	3	1	1	34	25	12	9
2.4 and Below	4	3	10	7	2	1	68	68	15	10	5	3	15	10	2	1	-	-	-	-	3	2	1	1
TOTAL STUDENTS	151		151		151		100		151		149		150		151		149		150		151		148	
75th Percentile	3.74		3.76		5.70		2.57		3.99		6.12		5.24		4.74		4.20		5.04		3.67		5.35	
50th Percentile	3.35		3.07		4.60		2.24		3.30		5.16		4.31		3.88		3.77		4.29		3.24		4.57	
25th Percentile	3.03		2.77		3.84		1.98		2.83		3.98		3.04		3.16		3.47		3.77		2.95		3.75	
MEAN	3.45		3.26		4.82		2.42		3.48		5.25		4.21		4.02		3.88		4.42		3.35		4.52	
STANDARD ERROR	.05		.06		.11		.08		.08		.14		.11		.09		.05		.07		.05		.09	

[2] Total Reading is derived from Word Meaning and Paragraph Meaning.
[3] Total Arithmetic is derived from Arithmetic Computation, Arithmetic Concepts, and Arithmetic Applications.
[4] N = The total number of students falling within the corresponding Grade Equivalent Interval.
[5] PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
[6] Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table IV-A-1 INTERMEDIATE II BATTERY 13 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS: WORD MEANING		PARAGRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPUTATION		ARITH. CONCEPTS		ARITH. APPLICATIONS		SCIENCE		SOCIAL STUDIES		TOTAL [2] READING		TOTAL [3] ARITHMETIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
7.5 and Above	1	100	4	100	26	100	7	100	17	100	6	100	9	100	7	100	4	100	1	100	9	100
7.0 - 7.4	1	99	1	99	13	91	3	98	3	94	3	98	8	97	2	97	7	99	1	99	7	97
6.5 - 6.9	-	99	2	98	20	86	8	97	14	93	13	97	11	94	1	97	8	96	3	99	9	94
6.0 - 6.4	4	99	9	98	22	79	14	94	19	88	14	92	5	90	6	96	12	93	2	98	17	91
5.5 - 5.9	3	98	8	94	25	71	17	89	40	81	23	87	24	88	8	94	15	88	8	98	15	84
5.0 - 5.4	19	97	14	92	28	62	21	83	40	67	49	79	8	79	10	91	29	83	19	95	30	79
4.5 - 4.9	23	90	33	87	29	52	26	75	34	52	62	61	25	76	18	87	26	72	26	88	58	68
4.0 - 4.4	51	82	70	75	36	42	31	66	30	40	63	38	56	67	25	81	65	62	59	79	48	46
3.5 - 3.9	94	64	56	50	32	29	40	55	45	29	18	15	50	46	94	71	58	38	94	58	47	29
3.0 - 3.4	55	30	40	30	28	18	50	41	10	13	13	8	45	27	77	36	33	16	40	24	28	11
2.9 and Below	30	11	44	16	22	8	65	23	27	10	10	4	29	11	18	7	11	4	27	10	2	1
TOTAL STUDENTS	281		281		281		282		279		274		270		266		268		280		270	
75th Percentile	4.24		4.56		6.25		4.94		5.81		5.41		4.92		4.23		5.03		4.39		5.34	
50th Percentile	3.77		4.05		4.78		3.74		4.81		4.87		4.00		3.65		4.17		3.88		4.51	
25th Percentile	3.28		3.37		3.70		3.03		3.78		4.25		3.43		3.31		3.66		3.46		3.84	
MEAN	3.85		4.04		5.09		4.10		4.91		4.83		4.38		3.96		4.44		3.98		4.72	
STANDARD ERROR	.05		.06		.10		.08		.09		.07		.09		.08		.07		.05		.07	

1/ Includes students for whom the better ear averages could not be computed.

Table IV-A-2 INTERMEDIATE II BATTERY 13 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO) [6]

GRADE EQUIVALENT INTERVAL	SUB TESTS: WORD MEANING		PARAGRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPUTATION		ARITH. CONCEPTS		ARITH. APPLICATIONS		SCIENCE		SOCIAL STUDIES		TOTAL [2] READING		TOTAL [3] ARITHMETIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
7.5 and Above	1	100	2	100	12	100	4	100	7	100	2	100	4	100	4	100	3	100	1	100	4	100
7.0 - 7.4	-	99	-	99	9	93	1	98	-	96	-	99	4	98	-	98	2	98	-	99	2	98
6.5 - 6.9	-	99	1	99	14	87	6	97	9	96	7	99	4	95	-	98	3	97	1	99	5	96
6.0 - 6.4	1	99	5	98	14	79	10	93	11	90	5	94	1	92	2	98	6	95	1	99	7	93
5.5 - 5.9	2	99	5	95	17	71	8	87	28	84	16	91	14	92	5	96	11	91	4	98	8	89
5.0 - 5.4	8	98	8	92	17	60	10	83	23	67	36	81	6	83	5	93	19	84	9	96	22	83
4.5 - 4.9	15	93	24	87	17	50	19	77	21	53	36	59	19	79	11	90	15	72	20	90	38	69
4.0 - 4.4	30	84	47	73	22	40	19	65	17	40	36	37	31	67	12	83	44	63	35	78	28	45
3.5 - 3.9	59	66	31	45	18	27	27	54	31	30	10	14	28	47	58	75	31	35	57	57	28	27
3.0 - 3.4	32	31	18	26	13	16	27	38	4	11	7	8	32	29	50	38	20	16	24	23	14	10
2.9 and Below	19	11	25	15	13	8	36	22	14	9	6	4	14	9	10	6	5	3	14	8	1	1
TOTAL STUDENTS	167		166		166		167		165		161		157		157		159		166		157	
75th Percentile	4.19		4.62		6.24		4.88		5.79		5.39		4.64		3.95		5.00		4.40		5.20	
50th Percentile	3.75		4.11		4.95		3.82		4.81		4.88		3.98		3.62		4.17		3.89		4.52	
25th Percentile	3.28		3.44		3.89		3.10		3.78		4.26		3.42		3.27		3.70		3.47		3.87	
MEAN	3.80		4.08		5.16		4.13		4.85		4.78		4.29		3.86		4.42		3.97		4.66	
STANDARD ERROR	.06		.08		.13		.11		.11		.08		.10		.09		.08		.07		.08	

2/ Total Reading is derived from Word Meaning and Paragraph Meaning.
3/ Total Arithmetic is derived from Arithmetic Computation, Arithmetic Concepts, and Arithmetic Applications.
4/ N = The total number of students falling within the corresponding Grade Equivalent Interval.
5/ PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
6/ Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table IV-B-1 INTERMEDIATE II BATTERY 14 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS																			
	WORD MEANING		PARAGRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPUTATION		ARITH. CONCEPTS		ARITH. APPLICATIONS		SCIENCE		SOCIAL STUDIES		TOTAL [2] READING		TOTAL [3] ARITHMETIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
7.5 and Above	2	100	6	100	57	100	13	100	51	100	14	100	19	100	8	100	10	100	3	100	17	100
7.0 - 7.4	1	99	4	98	10	80	13	95	11	82	9	95	13	93	2	97	10	97	2	99	12	94
6.5 - 6.9	6	99	8	97	28	77	12	91	23	78	20	92	19	89	7	97	9	93	8	98	24	90
6.0 - 6.4	3	97	9	94	31	67	18	87	24	70	21	85	11	82	10	94	20	90	7	95	28	81
5.5 - 5.9	12	96	8	91	19	56	21	80	33	61	34	77	31	78	8	90	36	83	12	93	39	71
5.0 - 5.4	10	92	34	88	30	49	28	73	35	50	42	65	17	67	16	88	29	70	17	89	27	57
4.5 - 4.9	37	88	44	76	23	39	27	63	25	37	68	50	24	61	17	82	43	60	38	83	36	47
4.0 - 4.4	59	75	48	60	24	31	29	54	35	23	46	26	52	52	44	76	48	44	64	69	45	34
3.5 - 3.9	86	54	62	43	26	22	48	43	26	16	14	9	43	34	89	60	46	27	83	47	42	18
3.0 - 3.4	47	24	35	22	26	13	41	26	9	7	5	4	36	18	71	29	28	11	37	18	8	3
2.9 and Below	21	7	26	9	11	4	34	12	10	4	7	3	15	5	10	4	3	1	13	5	-	-
TOTAL STUDENTS	284		284		285		284		282		280		280		282		282		284		278	
75th Percentile	4.55		4.92		6.86		5.54		6.76		5.91		5.73		4.43		5.56		4.69		6.10	
50th Percentile	3.91		4.21		5.58		4.31		5.56		5.15		4.42		3.79		4.58		4.03		5.09	
25th Percentile	3.47		3.60		4.13		3.40		4.40		4.34		3.63		3.40		3.84		3.59		4.16	
MEAN	4.06		4.35		5.75		4.59		5.72		5.20		4.93		4.16		4.84		4.24		5.29	
STANDARD ERROR	.06		.07		.12		.09		.11		.07		.11		.07		.07		.06		.08	

1/ Includes students for whom the better ear averages could not be computed.

Table IV-B-2 INTERMEDIATE II BATTERY 14 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO) [6]

GRADE EQUIVALENT INTERVAL	SUB TESTS																			
	WORD MEANING		PARAGRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPUTATION		ARITH. CONCEPTS		ARITH. APPLICATIONS		SCIENCE		SOCIAL STUDIES		TOTAL [2] READING		TOTAL [3] ARITHMETIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
7.5 and Above	2	100	5	100	40	100	8	100	32	100	11	100	16	100	4	100	5	100	2	100	14	100
7.0 - 7.4	-	99	2	97	7	78	7	96	6	82	8	94	8	91	2	98	7	97	2	99	6	92
6.5 - 6.9	5	99	3	96	16	74	9	92	15	79	11	89	14	86	4	97	7	93	5	98	15	89
6.0 - 6.4	2	96	6	94	21	65	15	87	16	70	12	83	6	78	6	94	16	89	4	95	18	80
5.5 - 5.9	6	95	6	91	13	53	13	78	22	61	23	76	20	75	4	91	23	80	5	93	26	70
5.0 - 5.4	8	92	25	88	17	46	20	71	25	49	24	63	7	64	13	89	18	67	15	90	17	55
4.5 - 4.9	28	87	30	74	18	37	15	60	15	35	41	49	15	60	10	82	26	57	28	82	20	45
4.0 - 4.4	37	72	29	57	13	27	17	51	19	26	27	26	36	51	27	76	29	43	43	66	28	33
3.5 - 3.9	53	51	43	41	16	19	31	42	16	16	10	11	26	31	61	61	28	26	49	42	27	17
3.0 - 3.4	25	21	15	17	13	11	27	25	4	7	3	5	23	16	40	26	17	11	19	15	3	2
2.9 and Below	13	7	15	8	6	3	17	10	8	5	6	3	5	3	7	4	2	1	7	4	-	-
TOTAL STUDENTS	179		179		180		179		178		176		176		178		178		179		174	
75th Percentile	4.61		5.01		7.02		5.72		6.64		5.93		6.05		4.43		5.63		4.75		6.18	
50th Percentile	3.94		4.28		5.71		4.41		5.57		5.16		4.43		3.79		4.77		4.10		5.22	
25th Percentile	3.52		3.75		4.39		3.46		4.43		4.34		3.77		3.43		3.84		3.68		4.14	
MEAN	4.12		4.43		5.86		4.66		5.74		5.23		5.05		4.15		4.87		4.31		5.35	
STANDARD ERROR	.07		.09		.15		.11		.14		.10		.14		.09		.09		.07		.11	

2/ Total Reading is derived from Word Meaning and Paragraph Meaning.
3/ Total Arithmetic is derived from Arithmetic Computation, Arithmetic Concepts, and Arithmetic Applications.
4/ N = The total number of students falling within the corresponding Grade Equivalent Interval.
5/ PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
6/ Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table IV-C-1 INTERMEDIATE II BATTERY 15 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS																					
	WORD MEANING		PARA-GRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		ARITH. APPLI-CATIONS		SCIENCE		SOCIAL STUDIES		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
7.5 and Above	1	100	6	100	64	100	12	100	57	100	12	100	19	100	9	100	10	100	1	100	24	100
7.0 - 7.4	-	99	5	98	19	77	10	96	20	79	6	96	10	93	2	97	13	96	3	99	6	91
6.5 - 6.9	5	99	5	96	18	70	7	92	23	72	23	93	15	90	11	96	11	92	12	99	17	89
6.0 - 6.4	8	98	15	94	25	63	14	90	31	64	16	85	7	84	8	92	25	88	2	94	34	83
5.5 - 5.9	6	95	12	89	18	54	29	84	27	53	32	79	32	82	14	89	23	79	11	94	38	70
5.0 - 5.4	14	93	24	84	21	48	26	74	32	43	52	68	17	70	15	84	33	70	21	90	36	57
4.5 - 4.9	30	88	39	76	20	40	39	65	18	31	63	49	10	64	21	79	28	58	46	82	37	43
4.0 - 4.4	67	77	57	62	34	33	18	50	18	25	48	26	59	60	40	71	43	48	55	65	32	30
3.5 - 3.9	94	53	44	41	27	21	35	44	32	18	11	8	47	39	76	57	57	32	80	45	36	18
3.0 - 3.4	34	19	39	25	20	11	40	31	9	7	5	4	36	22	67	29	27	12	29	16	12	5
2.9 and Below	17	6	30	11	10	4	46	17	9	3	6	2	23	8	13	5	5	2	16	6	2	1
TOTAL STUDENTS	276		276		276		276		276		274		275		276		275		276		274	
75th Percentile	4.43		4.93		7.25		5.49		7.13		5.86		5.69		4.85		5.64		4.72		6.12	
50th Percentile	3.92		4.22		5.65		4.43		5.88		5.16		4.23		3.80		4.51		4.08		5.23	
25th Percentile	3.55		3.55		4.26		3.30		4.56		4.35		3.59		3.36		3.81		3.56		4.21	
MEAN	4.08		4.35		5.86		4.53		5.95		5.17		4.74		4.28		4.88		4.25		5.29	
STANDARD ERROR	.05		.07		.13		.09		.11		.07		.10		.09		.09		.06		.08	

1/ Includes students for whom the better ear averages could not be computed.

Table IV-C-2 INTERMEDIATE II BATTERY 15 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO) [6]

GRADE EQUIVALENT INTERVAL	SUB TESTS																					
	WORD MEANING		PARA-GRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		ARITH. APPLI-CATIONS		SCIENCE		SOCIAL STUDIES		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
7.5 and Above	1	100	4	100	43	100	7	100	38	100	9	100	13	100	6	100	7	100	-	-	17	100
7.0 - 7.4	-	99	3	98	12	78	8	96	12	80	5	95	8	93	2	97	7	96	3	100	5	91
6.5 - 6.9	3	99	4	96	8	71	4	92	20	74	13	93	10	89	7	96	5	93	8	98	10	89
6.0 - 6.4	7	98	11	94	20	67	11	90	23	64	11	86	3	84	7	92	15	90	2	94	21	83
5.5 - 5.9	4	94	8	89	13	57	19	84	17	52	16	80	20	82	7	89	18	82	8	93	25	72
5.0 - 5.4	9	92	17	84	17	50	17	75	23	43	39	72	10	72	10	85	26	73	14	89	29	59
4.5 - 4.9	20	88	25	76	14	41	29	66	12	31	45	51	8	67	16	80	20	59	31	82	28	44
4.0 - 4.4	52	77	41	63	26	34	13	51	12	25	34	28	47	62	27	71	32	49	37	66	21	29
3.5 - 3.9	61	50	28	41	21	20	25	44	25	18	10	10	38	38	53	57	38	32	58	46	26	18
3.0 - 3.4	23	18	27	27	12	9	26	31	5	5	4	5	21	18	47	30	19	12	19	16	8	5
2.9 and Below	12	6	24	13	6	3	33	17	5	3	5	3	13	7	10	5	4	2	12	6	1	1
TOTAL STUDENTS	192		192		192		192		192		191		191		192		191		192		191	
75th Percentile	4.42		4.93		7.10		5.47		7.10		5.60		5.64		4.70		5.57		4.71		6.07	
50th Percentile	4.05		4.19		5.55		4.42		5.90		4.94		4.23		3.77		4.49		4.04		5.20	
25th Percentile	3.57		3.39		4.26		3.27		4.56		4.33		3.62		3.35		3.81		3.60		4.24	
MEAN	4.09		4.31		5.78		4.50		5.94		5.11		4.72		4.24		4.83		4.24		5.27	
STANDARD ERROR	.07		.09		.15		.11		.13		.08		.11		.10		.10		.07		.10	

2/ Total Reading is derived from Word Meaning and Paragraph Meaning.
3/ Total Arithmetic is derived from Arithmetic Computation, Arithmetic Concepts, and Arithmetic Applications.
4/ N = The total number of students falling within the corresponding Grade Equivalent Interval.
5/ PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
6/ Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table IV-D-1 INTERMEDIATE II BATTERY 16 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS																					
	WORD MEANING		PARA-GRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		ARITH. APPLI-CATIONS		SCIENCE		SOCIAL STUDIES		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
7.5 and Above	1	100	2	100	65	100	7	100	67	100	8	100	17	100	9	100	7	100	2	100	20	100
7.0 - 7.4	-	99	-	99	18	78	7	98	19	77	8	97	6	94	-	97	3	98	-	99	11	93
6.5 - 6.9	2	99	6	99	34	72	12	95	23	70	27	95	20	92	4	97	16	97	1	99	31	89
6.0 - 6.4	5	99	10	97	31	60	19	91	27	63	27	85	19	85	9	96	30	91	7	99	36	79
5.5 - 5.9	9	97	12	94	25	49	33	85	39	53	35	76	34	79	7	92	34	81	11	97	39	66
5.0 - 5.4	20	94	32	90	34	41	36	73	39	40	48	64	28	67	20	90	44	69	27	93	32	53
4.5 - 4.9	37	87	56	79	27	29	32	61	27	27	64	47	38	57	32	83	43	54	49	83	53	42
4.0 - 4.4	60	74	63	60	29	20	32	50	18	17	47	25	54	44	64	72	59	39	69	66	36	23
3.5 - 3.9	97	54	59	38	9	10	44	39	23	11	14	9	35	26	81	50	32	19	80	43	22	11
3.0 - 3.4	40	20	31	18	12	7	45	24	4	3	8	5	24	13	58	22	21	8	36	15	9	3
2.9 and Below	18	6	20	7	7	2	24	8	5	2	5	2	15	5	7	2	2	1	7	2	1	0
TOTAL STUDENTS	289		291		291		291		291		291		290		291		291		289		290	
75th Percentile	4.56		4.87		7.12		5.54		7.37		5.93		5.72		4.63		5.63		4.71		6.24	
50th Percentile	3.91		4.26		5.98		4.46		5.88		5.18		4.62		3.95		4.88		4.18		5.38	
25th Percentile	3.51		3.76		4.72		3.56		4.82		4.35		3.84		3.49		4.10		3.63		4.47	
MEAN	4.06		4.33		6.15		4.59		6.22		5.19		4.94		4.28		4.95		4.22		5.44	
STANDARD ERROR	.05		.06		.11		.08		.12		.07		.09		.08		.07		.05		.08	

1/ Includes students for whom the better ear averages could not be computed.

Table IV-D-2 INTERMEDIATE II BATTERY 16 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO) [6]

GRADE EQUIVALENT INTERVAL	SUB TESTS																					
	WORD MEANING		PARA-GRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		ARITH. APPLI-CATIONS		SCIENCE		SOCIAL STUDIES		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
7.5 and Above	1	100	2	100	38	100	7	100	44	100	8	100	12	100	8	100	4	100	2	100	15	100
7.0 - 7.4	-	99	-	99	17	81	4	97	15	78	4	96	4	94	-	96	-	98	-	99	6	93
6.5 - 6.9	2	99	5	99	24	73	7	95	15	71	15	94	10	92	2	96	9	98	1	99	20	89
6.0 - 6.4	2	99	5	97	22	61	12	91	16	63	17	87	13	87	4	95	17	94	5	99	19	79
5.5 - 5.9	5	98	7	94	13	50	22	85	26	55	24	78	21	80	5	93	23	85	5	96	31	70
5.0 - 5.4	11	95	21	91	27	43	25	74	32	42	32	66	23	70	13	91	29	74	14	93	20	54
4.5 - 4.9	23	89	40	80	17	30	22	62	15	26	44	50	23	58	17	84	38	59	35	86	36	44
4.0 - 4.4	38	78	41	60	23	21	21	51	12	19	38	28	38	47	40	76	42	40	45	69	25	26
3.5 - 3.9	68	59	37	40	5	10	32	40	16	13	8	9	24	28	61	56	22	19	59	46	18	14
3.0 - 3.4	35	24	25	21	8	7	28	24	4	5	7	5	18	16	44	25	14	8	26	16	8	5
2.9 and Below	13	7	17	9	6	3	20	10	5	3	3	2	13	7	6	3	2	1	6	3	1	1
TOTAL STUDENTS	198		200		200		200		200		200		199		200		200		198		199	
75th Percentile	4.39		4.86		7.07		5.48		7.14		5.90		5.68		4.44		5.48		4.62		6.14	
50th Percentile	3.83		4.22		5.97		4.44		5.82		5.15		4.59		3.82		4.81		4.15		5.31	
25th Percentile	3.46		3.62		4.71		3.55		4.83		4.33		3.81		3.45		4.10		3.55		4.37	
MEAN	3.97		4.30		6.08		4.57		6.20		5.16		4.89		4.24		4.87		4.17		5.41	
STANDARD ERROR	.06		.07		.14		.10		.14		.09		.11		.11		.08		.06		.10	

2/ Total Reading is derived from Word Meaning and Paragraph Meaning.
3/ Total Arithmetic is derived from Arithmetic Computation, Arithmetic Concepts, and Arithmetic Applications.
4/ N = The total number of students falling within the corresponding Grade Equivalent Interval.
5/ PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
6/ Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table IV-E-1 INTERMEDIATE II BATTERY 17 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS																					
	WORD MEANING		PARA-GRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		ARITH. APPLI-CATIONS		SCIENCE		SOCIAL STUDIES		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
7.5 and Above	1	100	1	100	47	100	6	100	58	100	7	100	12	100	7	100	5	100	1	100	21	100
7.0 - 7.4	-	99	2	99	15	81	4	98	16	76	7	97	8	95	-	97	6	98	-	99	10	91
6.5 - 6.9	2	99	4	99	15	75	11	96	21	70	14	94	21	92	2	97	6	96	3	99	22	87
6.0 - 6.4	5	99	3	97	25	68	14	91	19	61	22	88	16	83	3	96	22	93	5	98	27	78
5.5 - 5.9	10	97	10	96	20	58	19	86	33	53	32	79	21	76	11	95	25	84	10	96	33	67
5.0 - 5.4	5	93	22	92	32	50	29	78	34	40	41	66	15	68	11	91	27	74	10	92	30	53
4.5 - 4.9	20	91	38	83	24	37	25	66	18	26	47	49	29	62	10	86	37	63	34	88	33	41
4.0 - 4.4	53	82	56	67	25	27	26	56	13	18	49	30	49	50	34	82	47	47	57	74	33	27
3.5 - 3.9	90	61	49	44	21	17	37	45	21	13	9	10	38	29	100	68	42	28	80	51	26	14
3.0 - 3.4	39	24	36	24	9	8	44	30	2	5	11	6	22	14	57	27	23	11	32	18	5	3
2.9 and Below	19	8	23	9	11	5	30	12	9	4	3	1	11	5	9	4	3	1	11	5	2	1
TOTAL STUDENTS	244		244		244		245		244		242		242		244		243		243		242	
75th Percentile	4.35		4.71		6.97		5.30		7.41		5.89		5.89		4.21		5.49		4.47		6.33	
50th Percentile	3.82		4.14		5.55		4.14		5.87		5.16		4.56		3.72		4.52		3.94		5.38	
25th Percentile	3.47		3.57		4.34		3.28		4.83		4.30		3.80		3.42		3.89		3.54		4.32	
MEAN	3.96		4.16		5.78		4.40		6.26		5.14		4.94		4.06		4.75		4.10		5.44	
STANDARD ERROR	.05		.06		.12		.09		.14		.08		.10		.08		.08		.05		.09	

1/ Includes students for whom the better ear averages could not be computed.

Table IV-E-2 INTERMEDIATE II BATTERY 17 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO) [6]

GRADE EQUIVALENT INTERVAL	SUB TESTS																					
	WORD MEANING		PARA-GRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPU-TATION		ARITH. CONCEPTS		ARITH. APPLI-CATIONS		SCIENCE		SOCIAL STUDIES		TOTAL [2] READING		TOTAL [3] ARITH-METIC	
	N [4]	PR [5]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
7.5 and Above	-	-	1	100	25	100	4	100	26	100	5	100	9	100	5	100	2	100	-	-	13	100
7.0 - 7.4	-	-	1	99	8	83	4	97	9	82	5	97	5	94	-	97	4	99	-	-	6	91
6.5 - 6.9	-	-	1	99	7	78	6	95	12	76	7	93	13	91	1	97	4	96	1	100	8	87
6.0 - 6.4	3	100	2	98	18	73	6	91	15	68	13	88	7	82	-	96	13	93	3	99	17	82
5.5 - 5.9	4	98	5	97	15	61	12	87	23	58	15	80	11	77	8	96	13	84	4	97	20	70
5.0 - 5.4	3	95	10	93	17	51	16	79	23	43	27	69	12	69	6	91	19	76	4	95	18	57
4.5 - 4.9	14	93	27	87	16	39	16	68	14	27	30	51	14	61	3	87	23	63	23	92	21	44
4.0 - 4.4	31	84	35	68	16	28	18	57	10	18	30	31	27	52	20	85	28	47	39	76	22	30
3.5 - 3.9	55	63	27	45	10	18	26	45	10	11	5	10	24	33	66	71	25	28	47	50	17	15
3.0 - 3.4	26	26	25	26	5	11	22	28	1	4	7	7	15	17	32	26	14	11	19	18	3	3
2.9 and Below	13	9	14	10	11	7	19	13	5	3	3	2	10	7	7	5	2	1	8	5	2	1
TOTAL STUDENTS	149		148		148		149		148		147		147		148		147		148		147	
75th Percentile	4.21		4.68		6.87		5.25		6.75		5.87		5.86		4.14		5.42		4.42		6.07	
50th Percentile	3.80		4.15		5.43		4.12		5.79		4.94		4.42		3.70		4.51		3.95		5.29	
25th Percentile	3.34		3.43		4.32		3.39		4.81		4.27		3.63		3.43		3.89		3.53		4.21	
MEAN	3.87		4.10		5.64		4.40		6.05		5.10		4.88		4.05		4.72		4.02		5.34	
STANDARD ERROR	.06		.08		.16		.11		.17		.10		.14		.12		.09		.06		.12	

2/ Total Reading is derived from Word Meaning and Paragraph Meaning.
3/ Total Arithmetic is derived from Arithmetic Computation, Arithmetic Concepts, and Arithmetic Applications.
4/ N = The total number of students falling within the corresponding Grade Equivalent Interval.
5/ PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
6/ Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table V-A-1 — ADVANCED BATTERY 15 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	PARAGRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPUTATION		ARITH. CONCEPTS		ARITH. APPLICATIONS		SCIENCE		SOCIAL STUDIES		TOTAL ARITHMETIC [2]	
	N [3]	PR [4]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
9.5 and Above	11	100	39	100	21	100	40	100	23	100	18	100	15	100	14	100	22	100
9.0 - 9.4	4	96	6	85	5	92	-	84	5	91	3	93	8	94	2	94	4	91
8.5 - 8.9	-	94	6	82	3	90	8	84	7	89	9	92	2	91	4	94	15	90
8.0 - 8.4	6	94	8	80	3	89	16	81	17	86	6	88	10	90	6	92	9	84
7.5 - 7.9	3	92	16	77	12	87	13	75	15	80	8	86	3	86	10	90	18	80
7.0 - 7.4	9	91	20	71	8	83	7	70	18	74	23	83	3	85	7	86	13	73
6.5 - 6.9	16	87	29	63	12	80	16	67	25	67	25	74	17	84	20	83	13	68
6.0 - 6.4	31	81	15	51	19	75	21	61	51	57	34	64	19	77	25	75	29	63
5.5 - 5.9	25	69	23	45	29	67	19	52	14	37	23	50	39	70	21	65	37	51
5.0 - 5.4	67	59	16	36	18	56	38	45	37	31	31	41	44	54	42	57	51	37
4.5 - 4.9	29	32	30	30	22	49	33	30	17	17	24	29	46	37	39	40	20	17
4.0 - 4.4	31	21	16	18	41	40	13	17	13	10	35	20	33	19	42	25	14	9
3.9 and Below	22	9	30	12	61	24	29	12	12	5	15	6	14	6	20	8	8	3
TOTAL STUDENTS	254		254		254		253		254		254		253		252		253	
75th Percentile	6.27		7.82		6.48		7.96		7.59		7.18		6.26		6.55		7.63	
50th Percentile	5.34		6.40		5.01		5.78		6.36		5.75		5.24		5.24		5.92	
25th Percentile	4.61		4.64		3.97		4.78		5.38		4.91		4.65		4.56		5.18	
MEAN	5.60		6.69		5.50		6.47		6.62		6.17		5.76		5.72		6.47	
STANDARD ERROR	.10		.16		.14		.15		.12		.12		.11		.11		.12	

1/ Includes students for whom the better ear averages could not be computed.

Table V-A-2 — ADVANCED BATTERY 15 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO) [5]

GRADE EQUIVALENT INTERVAL	PARAGRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPUTATION		ARITH. CONCEPTS		ARITH. APPLICATIONS		SCIENCE		SOCIAL STUDIES		TOTAL ARITHMETIC [2]	
	N [3]	PR [4]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
9.5 and Above	7	100	26	100	15	100	32	100	18	100	12	100	8	100	10	100	16	100
9.0 - 9.4	2	96	5	87	3	92	-	83	4	91	2	94	7	96	2	95	4	92
8.5 - 8.9	-	95	6	84	3	91	5	83	4	89	8	93	1	92	2	94	11	90
8.0 - 8.4	4	95	6	81	2	89	12	81	13	87	6	89	8	92	2	93	6	84
7.5 - 7.9	3	93	9	78	7	88	10	75	10	80	4	85	2	88	8	92	15	81
7.0 - 7.4	6	92	16	73	7	84	6	69	13	75	19	83	3	87	5	87	8	73
6.5 - 6.9	13	89	23	65	9	81	9	66	20	68	19	73	10	85	18	85	10	69
6.0 - 6.4	25	82	14	53	15	76	16	62	38	57	26	64	16	80	19	75	21	64
5.5 - 5.9	13	69	17	45	21	68	16	53	12	38	15	50	29	71	16	65	28	53
5.0 - 5.4	55	62	14	37	16	57	31	45	32	31	25	42	33	56	31	57	46	38
4.5 - 4.9	27	33	22	29	16	49	26	29	10	15	19	29	40	39	30	41	12	14
4.0 - 4.4	22	19	12	18	33	41	11	15	9	9	27	19	23	18	33	25	9	8
3.9 and Below	15	8	22	12	45	23	18	9	9	5	10	5	12	6	15	8	6	3
TOTAL STUDENTS	192		192		192		192		192		192		192		191		192	
75th Percentile	6.23		7.80		6.35		7.98		7.57		7.18		6.15		6.42		7.65	
50th Percentile	5.29		6.37		4.99		5.75		6.24		5.95		5.21		5.22		5.89	
25th Percentile	4.62		4.75		3.97		4.79		5.39		4.91		4.64		4.45		5.20	
MEAN	5.54		6.65		5.46		6.50		6.59		6.16		5.66		5.67		6.47	
STANDARD ERROR	.11		.18		.16		.18		.14		.14		.12		.12		.14	

2/ Total Arithmetic is derived from Arithmetic Computation, Arithmetic Concepts, and Arithmetic Applications.
3/ N = The total number of students falling within the corresponding Grade Equivalent Interval.
4/ PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
5/ Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table V-B-1 — ADVANCED BATTERY 16 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS																	
	PARAGRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPUTATION		ARITH. CONCEPTS		ARITH. APPLICATIONS		SCIENCE		SOCIAL STUDIES		TOTAL [2] ARITHMETIC	
	N [3]	PR [4]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
9.5 and Above	18	100	90	100	33	100	74	100	58	100	26	100	37	100	20	100	53	100
9.0 - 9.4	8	95	16	75	8	91	9	80	9	84	8	93	3	90	3	94	8	85
8.5 - 8.9	-	93	12	71	10	89	20	77	7	82	6	91	3	89	13	94	10	83
8.0 - 8.4	9	93	13	68	6	86	28	72	23	80	18	89	12	88	5	90	24	80
7.5 - 7.9	10	90	30	64	21	84	20	64	25	73	25	84	7	85	17	89	31	74
7.0 - 7.4	21	88	33	56	26	79	8	58	29	67	40	77	5	83	23	84	24	65
6.5 - 6.9	25	82	28	47	16	72	24	56	31	59	20	66	28	82	28	78	31	58
6.0 - 6.4	64	75	22	39	28	67	37	49	65	50	49	61	49	74	41	70	36	50
5.5 - 5.9	34	58	24	33	33	60	29	39	25	32	37	47	45	60	29	59	45	40
5.0 - 5.4	75	48	23	27	39	51	39	31	44	25	34	37	48	48	54	51	54	27
4.5 - 4.9	31	28	23	20	36	40	33	20	7	13	39	27	68	35	50	36	21	12
4.0 - 4.4	43	19	19	14	52	30	12	11	24	11	45	17	46	16	57	22	10	6
3.9 and Below	27	7	32	9	58	16	28	8	17	5	15	4	13	4	24	7	12	3
TOTAL STUDENTS	365		365		366		361		364		362		364		364		359	
75th Percentile	6.45		9.34		7.14		8.87		8.02		7.41		6.51		6.84		8.02	
50th Percentile	5.61		7.03		5.43		6.57		6.55		5.99		5.53		5.43		6.46	
25th Percentile	4.80		5.41		4.23		5.14		5.45		4.93		4.67		4.61		5.38	
MEAN	5.83		7.44		5.88		7.17		7.00		6.35		6.02		5.91		6.93	
STANDARD ERROR	.09		.14		.11		.14		.12		.10		.10		.09		.11	

[1] Includes students for whom the better ear averages could not be computed.

Table V-B-2 — ADVANCED BATTERY 16 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO) [5]

GRADE EQUIVALENT INTERVAL	SUB TESTS																	
	PARAGRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPUTATION		ARITH. CONCEPTS		ARITH. APPLICATIONS		SCIENCE		SOCIAL STUDIES		TOTAL ARITHMETIC [2]	
	N [3]	PR [4]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
9.5 and Above	12	100	63	100	22	100	55	100	46	100	19	100	26	100	15	100	43	100
9.0 - 9.4	6	95	12	76	6	92	8	78	6	82	6	93	-	90	1	94	5	83
8.5 - 8.9	-	93	7	71	7	89	12	75	5	80	4	90	3	90	9	94	5	81
8.0 - 8.4	3	93	7	68	3	86	20	71	14	78	14	89	8	89	4	90	18	79
7.5 - 7.9	9	92	24	66	18	85	13	63	22	73	16	83	5	86	10	89	18	72
7.0 - 7.4	12	88	20	56	16	78	6	58	17	64	24	77	4	84	12	85	18	65
6.5 - 6.9	16	84	22	48	6	72	19	55	18	57	12	68	23	82	24	80	21	58
6.0 - 6.4	49	78	19	40	21	70	28	48	45	50	36	63	34	73	32	71	29	49
5.5 - 5.9	24	59	18	33	25	62	22	37	20	33	27	49	33	60	18	59	31	38
5.0 - 5.4	58	49	15	26	25	52	26	28	34	25	27	38	33	47	40	52	36	26
4.5 - 4.9	19	27	14	20	29	42	21	18	5	12	26	28	46	34	36	36	13	12
4.0 - 4.4	31	19	14	14	39	31	6	10	13	10	32	18	34	16	40	22	7	6
3.9 and Below	19	7	23	9	41	16	19	8	13	5	13	5	8	3	17	7	9	4
TOTAL STUDENTS	258		258		258		255		258		256		257		258		253	
75th Percentile	6.39		9.33		7.20		8.93		8.17		7.38		6.54		6.76		8.10	
50th Percentile	5.58		6.99		5.39		6.60		6.44		5.96		5.54		5.41		6.47	
25th Percentile	4.82		5.44		4.20		5.38		5.45		4.92		4.66		4.61		5.42	
MEAN	5.77		7.38		5.82		7.27		7.07		6.32		6.03		5.89		7.00	
STANDARD ERROR	.10		.16		.14		.16		.14		.12		.12		.11		.14	

[2] Total Arithmetic is derived from Arithmetic Computation, Arithmetic Concepts, and Arithmetic Applications.
[3] N = The total number of students falling within the corresponding Grade Equivalent Interval.
[4] PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
[5] Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table V-C-1 — ADVANCED BATTERY 17 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS																	
	PARAGRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPUTATION		ARITH. CONCEPTS		ARITH. APPLICATIONS		SCIENCE		SOCIAL STUDIES		TOTAL ARITHMETIC [2]	
	N [3]	PR [4]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
9.5 and Above	13	100	96	100	33	100	103	100	60	100	36	100	28	100	15	100	58	100
9.0 - 9.4	5	97	8	76	8	92	6	74	9	85	8	91	9	93	2	96	9	86
8.5 - 8.9	1	96	16	74	17	90	17	73	6	83	14	89	5	91	9	96	22	83
8.0 - 8.4	15	95	31	70	17	86	47	69	35	81	13	86	12	90	11	94	26	78
7.5 - 7.9	9	92	41	63	16	82	26	57	36	73	33	82	6	87	19	91	42	71
7.0 - 7.4	21	89	35	53	22	78	16	51	31	64	41	74	13	85	35	86	33	61
6.5 - 6.9	38	84	43	44	24	72	25	47	58	56	36	64	25	82	31	77	39	53
6.0 - 6.4	68	75	29	33	34	66	44	41	79	42	54	55	54	76	50	70	66	43
5.5 - 5.9	38	58	18	26	39	58	32	30	24	22	34	42	74	62	44	57	39	27
5.0 - 5.4	97	49	17	22	39	48	28	22	32	16	47	33	65	44	64	46	42	17
4.5 - 4.9	42	25	20	18	60	39	30	15	14	8	37	21	65	28	50	30	12	7
4.0 - 4.4	29	14	21	13	55	24	14	7	15	5	37	12	35	11	49	18	9	4
3.9 and Below	28	7	30	7	41	10	16	4	3	1	12	3	11	3	23	6	5	1
TOTAL STUDENTS	404		405		405		404		402		402		402		402		402	
75th Percentile	6.46		9.00		7.24		9.56		8.01		7.57		6.34		6.83		8.22	
50th Percentile	5.61		7.36		5.52		7.23		6.86		6.25		5.54		5.77		6.67	
25th Percentile	4.96		5.89		4.56		5.64		6.00		5.28		4.79		4.84		5.82	
MEAN	5.81		7.57		6.01		7.63		7.25		6.56		5.99		5.95		7.23	
STANDARD ERROR	.08		.13		.10		.13		.10		.10		.09		.08		.10	

[1] Includes students for whom the better ear averages could not be computed.

Table V-C-2 — ADVANCED BATTERY 17 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO) [5]

GRADE EQUIVALENT INTERVAL	SUB TESTS																	
	PARAGRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPUTATION		ARITH. CONCEPTS		ARITH. APPLICATIONS		SCIENCE		SOCIAL STUDIES		TOTAL ARITHMETIC [2]	
	N [3]	PR [4]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
9.5 and Above	10	100	62	100	22	100	66	100	37	100	24	100	19	100	10	100	36	100
9.0 - 9.4	4	96	7	76	5	92	4	74	5	86	4	91	6	93	2	96	5	86
8.5 - 8.9	-	95	11	73	10	90	12	73	5	84	9	89	4	90	7	95	17	84
8.0 - 8.4	11	95	14	69	11	86	32	68	26	82	10	86	6	89	7	93	17	77
7.5 - 7.9	6	90	29	64	10	81	17	56	24	72	23	82	2	86	10	90	32	71
7.0 - 7.4	12	88	21	52	14	78	9	49	22	62	27	73	8	86	20	86	16	58
6.5 - 6.9	25	83	32	44	13	72	15	46	38	54	20	62	12	82	19	78	23	52
6.0 - 6.4	46	74	18	32	23	67	20	40	44	39	33	54	35	78	29	71	40	43
5.5 - 5.9	19	56	9	25	25	58	25	32	14	22	22	41	52	64	26	59	27	27
5.0 - 5.4	67	48	12	21	24	48	20	23	20	16	31	33	46	44	39	49	23	17
4.5 - 4.9	24	22	14	17	37	39	19	15	9	8	18	21	37	26	37	34	11	8
4.0 - 4.4	18	13	14	11	39	25	9	7	10	5	25	14	21	11	32	19	6	4
3.9 and Below	15	6	15	6	25	10	10	4	2	1	10	4	7	3	17	7	3	1
TOTAL STUDENTS	257		258		258		258		256		256		255		255		256	
75th Percentile	6.49		9.04		7.23		9.56		8.03		7.60		6.30		6.79		8.25	
50th Percentile	5.64		7.24		5.50		7.57		6.90		6.05		5.55		5.59		6.75	
25th Percentile	4.99		6.16		4.55		5.60		6.00		5.29		4.83		4.80		5.81	
MEAN	5.90		7.60		6.02		7.63		7.27		6.56		6.00		5.92		7.24	
STANDARD ERROR	.10		.16		.13		.16		.12		.12		.11		.11		.13	

[2] Total Arithmetic is derived from Arithmetic Computation, Arithmetic Concepts, and Arithmetic Applications.
[3] N = The total number of students falling within the corresponding Grade Equivalent Interval.
[4] PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
[5] Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table V-D-1 — ADVANCED BATTERY 18 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS																	
	PARAGRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPUTATION		ARITH. CONCEPTS		ARITH. APPLICATIONS		SCIENCE		SOCIAL STUDIES		TOTAL ARITHMETIC [2]	
	N [3]	PR [4]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
9.5 and Above	16	100	111	100	39	100	99	100	68	100	32	100	23	100	19	100	61	100
9.0 - 9.4	6	96	15	70	7	90	9	73	9	82	7	91	5	94	2	95	7	83
8.5 - 8.9	4	94	14	66	10	88	24	71	8	79	13	89	2	92	5	94	17	81
8.0 - 8.4	8	93	25	63	10	85	41	64	26	77	11	86	17	92	18	93	35	77
7.5 - 7.9	9	91	36	56	28	82	31	53	41	70	30	83	9	87	15	88	37	67
7.0 - 7.4	20	89	27	46	18	75	18	45	32	59	47	75	7	85	19	84	43	57
6.5 - 6.9	32	83	36	39	21	70	17	40	48	50	24	62	39	83	23	79	29	45
6.0 - 6.4	65	75	24	29	31	64	41	35	69	38	70	55	44	72	61	73	51	37
5.5 - 5.9	39	57	23	23	45	56	26	24	17	19	32	36	54	60	36	56	34	23
5.0 - 5.4	85	47	22	17	45	44	25	17	28	14	33	28	61	46	63	46	29	14
4.5 - 4.9	38	24	16	11	43	32	18	10	8	7	26	19	52	29	47	29	12	6
4.0 - 4.4	34	14	10	6	41	21	6	5	13	5	30	11	36	15	40	16	7	3
3.9 and Below	19	5	14	4	36	10	14	4	4	1	12	3	19	5	20	5	2	1
TOTAL STUDENTS	375		373		374		369		371		367		368		368		364	
75th Percentile	6.46		10.17		7.46		9.65		8.19		7.56		6.51		6.72		8.33	
50th Percentile	5.60		7.77		5.78		7.79		6.94		6.29		5.51		5.78		7.17	
25th Percentile	4.96		6.22		4.68		5.97		6.18		5.32		4.78		4.84		6.01	
MEAN	5.88		7.99		6.16		7.96		7.44		6.62		5.93		5.99		7.44	
STANDARD ERROR	.08		.13		.11		.13		.11		.10		.09		.09		.11	

1/ Includes students for whom the better ear averages could not be computed.

Table V-D-2 — ADVANCED BATTERY 18 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO) [5]

GRADE EQUIVALENT INTERVAL	SUB TESTS																	
	PARAGRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPUTATION		ARITH. CONCEPTS		ARITH. APPLICATIONS		SCIENCE		SOCIAL STUDIES		TOTAL ARITHMETIC [2]	
	N [3]	PR [4]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
9.5 and Above	6	100	66	100	22	100	63	100	43	100	16	100	9	100	8	100	40	100
9.0 - 9.4	2	97	11	72	5	91	5	73	6	82	3	93	3	96	-	97	3	83
8.5 - 8.9	1	97	10	67	6	89	14	71	6	79	10	92	1	95	2	97	11	81
8.0 - 8.4	6	96	21	63	8	86	24	65	17	77	7	88	11	94	11	96	23	77
7.5 - 7.9	6	94	21	54	18	83	22	54	23	69	18	85	8	90	12	91	20	67
7.0 - 7.4	13	91	14	45	14	75	7	45	21	59	34	77	3	86	14	86	26	58
6.5 - 6.9	22	86	24	39	12	69	11	42	32	50	16	62	27	85	15	80	20	47
6.0 - 6.4	42	76	14	29	16	64	29	37	44	37	49	55	28	73	37	73	36	38
5.5 - 5.9	27	58	12	23	30	57	19	25	9	18	24	34	37	61	20	57	25	22
5.0 - 5.4	58	47	16	18	28	44	15	16	17	14	16	24	40	45	41	49	13	11
4.5 - 4.9	19	22	13	11	27	32	10	10	4	7	13	17	27	28	31	31	7	6
4.0 - 4.4	22	14	6	6	25	21	4	6	10	5	20	12	26	16	26	18	4	3
3.9 and Below	11	5	7	3	24	10	9	4	2	1	7	3	12	5	15	7	2	1
TOTAL STUDENTS	235		235		235		232		234		233		232		232		230	
75th Percentile	6.42		9.64		7.45		9.95		8.21		7.42		6.49		6.63		8.30	
50th Percentile	5.60		7.84		5.73		7.77		6.94		6.30		5.52		5.63		7.13	
25th Percentile	4.99		6.23		4.68		5.96		6.19		5.66		4.80		4.80		6.02	
MEAN	5.79		7.93		6.15		7.94		7.45		6.58		5.84		5.87		7.42	
STANDARD ERROR	.09		.16		.13		.17		.13		.11		.10		.11		.13	

2/ Total Arithmetic is derived from Arithmetic Computation, Arithmetic Concepts, and Arithmetic Applications.
3/ N = The total number of students falling within the corresponding Grade Equivalent Interval.
4/ PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
5/ Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

STANFORD ACHIEVEMENT TEST PERFORMANCE OF STUDENTS IN SCHOOLS AND CLASSES FOR HEARING IMPAIRED, FOR SELECTED AGES AND HEARING THRESHOLD LEVELS: UNITED STATES, SPRING 1969

Table V- E-1 ADVANCED BATTERY 19 YEAR OLD STUDENTS: ALL HEARING LOSS THRESHOLDS [1]

GRADE EQUIVALENT INTERVAL	SUB TESTS																	
	PARAGRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPUTATION		ARITH. CONCEPTS		ARITH. APPLICATIONS		SCIENCE		SOCIAL STUDIES		TOTAL ARITHMETIC [2]	
	N [3]	PR [4]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
9.5 and Above	6	100	70	100	17	100	71	100	24	100	8	100	9	100	8	100	32	100
9.0 - 9.4	1	98	17	72	6	93	10	72	7	90	3	97	2	96	2	97	9	87
8.5 - 8.9	1	97	8	65	11	91	21	68	14	88	8	96	1	96	3	96	14	83
8.0 - 8.4	2	97	27	62	5	86	24	59	33	82	12	92	10	95	7	95	27	78
7.5 - 7.9	2	96	21	51	14	84	21	49	25	69	28	87	2	91	6	92	31	67
7.0 - 7.4	13	95	29	43	19	79	9	41	27	59	31	76	10	90	20	90	21	54
6.5 - 6.9	20	90	12	31	17	71	16	37	30	48	17	64	27	86	25	81	32	46
6.0 - 6.4	54	82	10	26	29	64	23	31	52	36	52	57	41	75	35	71	36	33
5.5 - 5.9	36	60	15	22	24	53	17	22	10	15	24	36	43	59	24	57	16	18
5.0 - 5.4	57	46	15	16	20	43	22	15	9	11	19	26	42	42	44	47	19	12
4.5 - 4.9	23	23	12	10	35	35	8	6	7	7	18	18	35	25	31	30	5	4
4.0 - 4.4	20	14	6	5	27	21	2	3	6	4	24	11	23	11	28	17	3	2
3.9 and Below	14	6	7	3	25	10	5	2	4	2	3	1	3	1	14	6	2	1
TOTAL STUDENTS	249		249		249		249		248		247		248		247		247	
75th Percentile	6.29		9.89		7.17		9.63		8.03		7.43		6.34		6.64		8.31	
50th Percentile	5.60		7.91		5.86		7.97		7.18		6.30		5.60		5.63		7.19	
25th Percentile	4.98		6.41		4.67		6.18		6.19		5.34		4.96		4.87		6.10	
MEAN	5.69		8.01		6.10		8.03		7.24		6.46		5.87		5.87		7.33	
STANDARD ERROR	.08		.14		.12		.15		.11		.10		.09		.10		.10	

[1] Includes students for whom the better ear averages could not be computed.

Table V- E-2 ADVANCED BATTERY 19 YEAR OLD STUDENTS: HEARING LOSS THRESHOLD 60 DECIBELS AND ABOVE (ISO) [5]

GRADE EQUIVALENT INTERVAL	SUB TESTS																	
	PARAGRAPH MEANING		SPELLING		LANGUAGE		ARITH. COMPUTATION		ARITH. CONCEPTS		ARITH. APPLICATIONS		SCIENCE		SOCIAL STUDIES		TOTAL ARITHMETIC [2]	
	N [3]	PR [4]	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR	N	PR
9.5 and Above	4	100	40	100	11	100	42	100	15	100	7	100	6	100	4	100	19	100
9.0 - 9.4	-	98	12	75	4	93	4	74	5	91	1	96	-	96	2	98	4	88
8.5 - 8.9	1	98	6	67	4	91	12	71	6	87	4	95	1	96	2	96	9	85
8.0 - 8.4	2	97	15	64	4	88	17	64	19	84	4	92	6	96	3	95	15	80
7.5 - 7.9	2	96	15	54	7	86	13	53	11	72	20	90	1	92	4	93	19	70
7.0 - 7.4	8	94	18	45	12	81	6	45	19	65	19	77	6	91	12	91	11	58
6.5 - 6.9	10	89	9	33	12	74	13	41	23	53	11	65	15	87	18	83	22	51
6.0 - 6.4	34	83	7	28	16	66	14	33	35	38	30	58	30	78	23	72	26	37
5.5 - 5.9	23	62	10	23	18	56	13	24	8	16	15	39	30	59	12	57	13	21
5.0 - 5.4	38	47	12	17	10	45	16	16	5	11	14	30	27	40	25	49	12	13
4.5 - 4.9	13	23	8	9	26	38	4	6	5	8	12	21	21	23	21	34	5	5
4.0 - 4.4	14	15	3	4	19	22	2	3	5	4	20	13	13	10	22	20	3	2
3.9 and Below	10	6	4	3	16	10	3	2	2	1	1	1	3	2	10	6	-	-
TOTAL STUDENTS	159		159		159		159		158		158		159		158		158	
75th Percentile	6.27		9.56		7.07		9.57		8.00		7.40		6.30		6.62		8.13	
50th Percentile	5.58		7.82		5.63		7.77		6.91		6.29		5.63		5.58		6.82	
25th Percentile	4.98		6.36		4.53		6.03		6.16		5.30		4.98		4.81		6.02	
MEAN	5.68		7.87		6.00		7.84		7.15		6.39		5.85		5.79		7.19	
STANDARD ERROR	.10		.17		.14		.18		.13		.13		.11		.12		.13	

[2] Total Arithmetic is derived from Arithmetic Computation, Arithmetic Concepts, and Arithmetic Applications.
[3] N = The total number of students falling within the corresponding Grade Equivalent Interval.
[4] PR (Percentile Rank) The accumulative percentage of students with scores in and below a given Interval.
[5] Average hearing threshold in better ear computed at 500, 1000, 2000 cycles per second.

GALLAUDET COLLEGE
WASHINGTON, D.C.

FORM ACHIC-1

APPENDIX I

ANNUAL CENSUS OF HEARING IMPAIRED CHILDREN
1968-69 School Year

I. GENERAL INFORMATION

A. 1. Name _____ (Last) (First) (Middle) Date of Birth _____ (Mo., Day, Yr.) Sex ☐ M ☐ F

2. Address _____ (Number and Street) (City) (County) (State & ZIP Code)

3. Present School _____ (Name)

4. Location _____ (Number and Street) (City) (County) (State & ZIP Code)

B. Probable Age At Onset of Hearing Loss: ☐ At Birth _____ Years of Age

C. Additional Handicapping Conditions: (Check all educationally significant handicapping conditions.)

☐ None
☐ Cleft Lip or Palate
☐ Severe Visual
☐ Mental Retardation
☐ Emotional Problems
☐ Behavioral Problems
☐ Perceptual-Motor Disorders
☐ Cerebral Palsy
☐ Other (describe) _____

II. EDUCATIONAL HISTORY

A. 1. Student Now Attends:

☐ Regular Classes Only
☐ Regular Classes Plus Special Training
Number of hours special training per week _____
☐ Fulltime Classes for Hearing Impaired
School For The Deaf
☐ Public ☐ Residential Student
☐ Private ☐ Day Student

☐ Other (describe) _____

2. Total Full Years Attended This School Since Age Six _____

B. Attendance at Other Schools Since Age Six: (Mark all that apply) If None Check Here ☐

Regular Classes Only- _____ Years
Regular Classes Plus Special Training- _____ Years
Fulltime Classes for Hearing Impaired- _____ Years
Schools for the Deaf- _____ Years
Other- _____ Years

C. Formal Education Prior to Age Six: If None Check Here ☐ If Unknown Check Here ☐

1. Age Started _____
2. Type (describe) _____

III. ACHIEVEMENT AND INTELLIGENCE TESTS

A. Most Recent Achievement Test

Description of Test			Grade Scores		
Name	Form No.	Level	Reading Level	Battery Median	Date Tested (Month, Yr.)

B. Most Recent Intelligence Test

Description of Test		I.Q. Scores		
Name	Form	Verbal	Nonverbal	Date Tested (Month, Yr.)

IV. RECOMMENDED EDUCATIONAL TRAINING

A. If facilities were available, would you recommend a different kind of educational training for the student than he presently is receiving? ☐ Yes ☐ No

B. If Yes, what type of program would you recommend?

☐ Special School for Hearing Impaired
☐ Special Program for Multiple Handicapped
☐ Fulltime Classes for Hearing Impaired
☐ Regular Classes Plus Special Training
☐ Regular Classes
☐ Other (specify) _____

FOR OFFICE USE:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

V. AUDIOLOGICAL FINDINGS

A. Standard Used for Testing: ☐ ISO ☐ ASA

B. Air Conduction

	RIGHT EAR								LEFT EAR							
Frequency	125	250	500	1000	2000	4000	6000	8000	125	250	500	1000	2000	4000	6000	8000
Hearing Level																
For Office Use																

C. Unaided Speech Threshold

Test Used: ☐ SAT ☐ SRT ☐ Not Tested

Right	Left	Right	Left
☐ 0-15 dB	☐	☐ 45-59 dB	☐
☐ 16-29 dB	☐	☐ 60-79 dB	☐
☐ 30-44 dB	☐	☐ 80 dB & Over	☐

D. Examiner Identification

Name of Clinic or Place Conducting Audiological Examination

_____ Date _____

Address _____
(Number and Street) (City) (State & ZIP Code)

Profession of Examiner: ☐ Audiologist ☐ Otologist ☐ Other M.D.

Other (specify) _____

VI. HEARING AID USE

A. Does Student Use a Personal Aid? ☐ Yes ☐ No

If Yes, is Aid: ☐ Monaural ☐ Binaural

B. Speech Awareness Threshold With Aid is _____ dB.

C. Speech Reception Threshold With Aid is _____ dB.

VII. ABILITY TO COMMUNICATE

A. Receptive

1. If student uses a personal hearing aid, indicate ability to hear and understand both **with and without** a hearing aid. If student does not use a hearing aid, only record ability to hear and understand without a hearing aid.

With Hearing Aid	Without Hearing Aid
☐ Can hear and understand most speech	☐
☐ Can hear and understand some speech	☐
☐ Cannot hear and understand any speech	☐

2. Lipreading Ability: ☐ Good ☐ Fair ☐ None

3. Reading Ability: ☐ Good ☐ Fair ☐ None

B. Expressive

1. Speaking Ability: ☐ Others can understand most of his speech
☐ Others can understand only a little of his speech
☐ Others cannot understand his speech

2. Methods Used to Communicate to Others: (Check all that apply)
☐ Speech ☐ Writing ☐ Manual Alphabet ☐ Sign Language ☐ Gestures

Other (describe) _____

FOR OFFICE USE:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

APPENDIX II

Description of Sub-Tests
Stanford Achievement Test Series: Form W

The sub-test descriptions presented herein are taken directly from the "Directions For Administering Manuals" which accompany each of the Stanford test batteries published by Harcourt, Brace & World, Inc. For purposes of brevity, many of the sub-test descriptions have been combined and summarized here. While great care has been taken to represent comprehensively and accurately these descriptions, it is possible to obtain, in some cases, more extensive descriptions of the sub-tests by referring to the test manuals themselves.

ARITHMETIC

The Arithmetic sub-test is contained in the Primary I Battery. This sub-test consists of 63 items in three parts: Part A, Measures (13 items); Part B, Problem Solving (18 items); Part C, Number Concepts (32 items).

The test publishers state that measures are given considerable emphasis in Grade 1. They add that in learning to compare, pupils first learn general words in the language of comparison such as bigger, more, hotter, heavier, faster and cheaper. Then students learn the meaning of a standard referent, such as quart, dozen, yard, pound or cent. Later the students refine measurement by use of numbers, both as multiples of the units of measure and as parts of them. The primary task of first grade, however, is to teach the meaning of measurement and a basic knowledge of standard units. The items contained in Measures attempt to assess the student's knowledge of these standard measuring units.

The Problem Solving part evaluates the pupil's ability to do simple arithmetic computations and to understand the language of problems.

The Number Concepts section tests: 1) Ability to pair an array of objects with its number name; 2) Meaning of a unit fraction; 3) Knowledge of a number sequence; 4) Meaning of such number names as couple, dozen and pair; 5) Counting by 2's; 6) Writing Arabic numerals to 100; 7) Elementary knowledge of place value; 8) Ability to count backwards; 9) Reading of 3 digit numerals; 10) Knowledge of easy addition and subtraction facts; 11) Knowledge of simple number sentences.

ARITHMETIC APPLICATIONS

The Arithmetic Applications Test is found in the Intermediate I, II and Advanced batteries. This test consists of multiple-choice items which measure reasoning with problems taken from life experiences. The general reading vocabulary was designed so as not to interfere with the problem-solving level being measured. Computation difficulty has been controlled so that it is only a minor factor.

The pupil is required to apply his mathematical knowledge and his ability to think mathematically in practical situations which concern area, volume, ratio, graphs, tables, scales, percent, business transactions, averages, problems with circles and other geometric

figures, and the selection of mathematical models for problems.

ARITHMETIC COMPUTATION

The Arithmetic Computation sub-tests are contained in the Primary II, Intermediate I, II and Advanced batteries. In the Primary II battery the test contains 60 free response items in addition, subtraction, multiplication and division. The multiplication and division facts are restricted to the sixes and below. In the Intermediate I, II and Advanced batteries, the tests cover more concept areas, and are more advanced, but they again cover the fundamental operations of addition, subtraction, multiplication and division. The tests are in multiple choice form. The following aspects of the different operations are included: 1) ADDITION. Carefully chosen distribution of number facts, carrying to tens' place, to hundreds' place, to thousands' place, and so on; increasing number of digits in the addends, broken columns; whole numbers, decimal fractions, money notation; emphasis upon the carry facts that may occur in multiplication examples. 2) SUBTRACTION. Careful distribution of subtraction facts; regrouping (borrowing) in a variety of possible combinations of place-value positions; zero difficulties in both minuend and subtrahend; "hidden zero" as in 213 - 67; disappearing left as in 146 - 83 and with a gap as in 4397 - 889. 3) MULTIPLICATION. Systematic distribution of the primary facts in multiplication; carrying in various positions; inclusion of zeros in different positions of both factors in order to sample all possible sources of error involving place-value position. 4) DIVISION. Systematic sampling of number facts for use in dividends, divisors and quotients; careful sampling of the various "types" of division, including the zero in either or both of the factors (divisor or quotient) and the product (dividend).

These four operation are extended to include computation with fractions, solution of a number sentence, and understanding of percent.

ARITHMETIC CONCEPTS

The Arithmetic Concepts sub-tests are contained in the Primary II, Intermediate I and II, and the Advanced batteries. They are graduated in difficulty according to the particular battery in which they appear. At the Primary II level, it contains the testing of concepts such as counting, counting beyond 100, matching numerals and number names, counting by 2's and 5's and counting backwards. The test includes the reading of simple graphs, reading and writing the numerals of greater numbers and solving problems using common fractions. At the Intermediate I and II battery levels, the Arithmetic Concepts sub-test measures the understanding of place-value, Roman numerals, operational terms, the meaning of fraction and of multiplication and the interrelationship of the two fundamental operations (addition and multiplication) and their inverses (subtraction and division). Also included are directional numbers, number series, number names, estimations, averages, number sentences, meaning of percent, decimal fraction positions, common denominators, rounding of whole numbers, geometric terms and manipulations of fractions. The advanced battery include the content areas of the Intermediate I and II levels but also contains exercises in formulas, operations with negative numbers and exponents, roots, expanded notation, properties of operations, simple statistics, prime numbers, divisibility, insight into set situations, and an understanding of non-decimal bases.

LANGUAGE

The Language sub-test is contained in the Primary II, Intermediate I, II, and the Advanced batteries. In the Primary II battery, the Language sub-test consists of two parts – Part A: Capitalization and Punctuation, and Part B: Usage. The Capitalization section samples the use of capital letters for names, months of the year, first word in a sentence, etc. The Punctuation section primarily measures the use of periods, commas and question marks. Part B, Usage, is primarily concerned with verb forms and pronouns. Also measured are errors between adverbs and adjectives, comparative and superlative forms of adjectives, double negatives and word choices.

In the Intermediate I and II and Advanced batteries, the Language sub-test consists of exercises in Usage, Punctuation, Capitalization, Dictionary Skills and Sentence Sense.

The Usage part of the test samples correct verb usage, the use of pronouns and adjectives, choice of words, double negatives and substantial corruptions. The Punctuation part of the test measures the use of periods, commas, colons, question marks, quotation marks, etc. The items in the Capitalization part sample nearly the entire domain of capitalization and

the situations in which no capital letter is needed. Study skills in language are measured by the Dictionary Skills, part of the Language sub-test. It includes selecting the appropriate meaning of a word from multiple alternatives, using the pronunciation key (adapting to the diacritical marks), syllabifying and accenting, using location skills (alphabetization and guide words), and identifying parts of speech. The Sentence Sense part assesses the ability to recognize correct and faulty sentences in written English. Three possibilities are included: groups of words that may be correctly punctuated as two or more sentences; groups of words that may be correctly punctuated as single complete sentences; and groups of words which are not sentences.

PARAGRAPH MEANING

The Paragraph Meaning sub-test is contained in all the battery levels. This sub-test consists of a series of paragraphs, graduated in difficulty. One or more words have been omitted from each paragraph. The pupil's task is to demonstrate his comprehension of the paragraph by selecting from four choices afforded him, the proper word for each omission. The Intermediate through Advanced levels also include complete paragraphs about which questions are asked and then answered by selecting one of four possible choices. The test is meant to provide a functional measure of the pupil's ability to comprehend connected discourse involving levels of comprehension varying from extremely simple recognition to the recognition of inferences from what is stated in several sentences.

SCIENCE

The Science sub-test is contained in the Intermediate I, II, and Advanced batteries. The objectives measured by this test are: 1) the ability to see the application of principles of science in our environment and everyday activities; 2) the knowledge of the facts and generalizations from the various branches of the natural sciences; and 3) some knowledge of the scientific method.

SCIENCE AND SOCIAL STUDIES CONCEPTS

This sub-test is contained in the Primary II battery. It employs a multiple-choice type of item in which the pupil is required to select the proper response to a question or to a statement read by the teacher. It is a specialized vocabulary test which, to a limited degree, serves as a "non-reading" vocabulary test. In addition to items measuring knowledge of synonyms, of simple definition, and of ready associations, there are items designed to measure higher-level comprehension of the concepts represented by words and terms. The Science content is evenly distributed among the three categories of physical science, life science, and the attitudes and methods of scientists. The Social Studies section samples economics, geography, history, civics and other areas difficult to classify under one category.

SOCIAL STUDIES

The Social Studies Test appears in the Intermediate I and II and Advanced batteries. This test is divided into two parts. Part A covers areas that may be loosely defined as history, geography and civics, and involves the interrelationships of the various disciplines. The relationships tested are frequently those of cause and effect and if-then sequences of events which have occurred, or are likely to occur if historical precedent maintains. Part B, Study Skills, intends to measure the abilities by which pupils are able to make use of reference materials. The items may be classified as the interpretation of graphs and tables, the reading of maps and the interpretation of a globe. The content varies according to different levels of the test.

SPELLING

The Spelling sub-test is contained in all five batteries. In the Primary I and II batteries, the Spelling sub-test is meant to employ a dictation type exercise. The word to be spelled is pronounced by the teacher, an illustrative sentence is read, and the word is repeated. The pupil then writes the word in his test booklet.

The Spelling sub-test at the Intermediate I and II, and Advanced battery levels consists of multiple-choice items. The pupil chooses from four words that one which is spelled incorrectly. Because each item requires four spelling judgments, a difficult item can be secured by selecting words that are commonly used and likely to be in spelling text books. While this type of spelling test requires the identification of an incorrect spelling rather than the writing of the

proper spelling of the word, it yields results which correlate to a very high degree with results of dictation-type tests. The multiple-choice item eliminates the examiners pronunciation of a word.

WORD MEANING

The Word Meaning sub-test is contained in the Primary II, and the Intermediate I and II batteries. The test consists of multiple-choice items, graduated in difficulty, which measure the ability of a pupil to read a sentence and to select a correct word to complete the sentence. The items become more difficult as the batteries advance. In addition to items measuring the knowledge of synonyms, of sample definitions, and of ready associations, there are items designed to measure high-level comprehension of the concepts represented by words and terms.

The selection of words for inclusion in this test was based on considerations of the frequency of occurrences of the words in the pupils' usage and in material which they read. The appropriateness of all words included, either as stimulus words or as alternative responses, was checked by reference to the available word counts.

WORD READING

The Word Reading sub-test is included in the Primary I battery. This sub-test consists of 35 items, graduated in difficulty, which measure the ability of the pupil to analyze a word without the aid of context. The test employs a multiple-choice type item in which the pupils are required to look at a picture and then select the word which stands for the picture from a group of four words.

WORD STUDY SKILLS

The Word Study Skills sub-test is found in the Primary I and II and the Intermediate I batteries. The content and design of this test differs from battery to battery. In the Primary I battery, the Word Study Skills test includes 56 multiple-choice items, as follows: 1) Auditory Perception of Beginning Sounds. A pupil hears one word read by the teacher. He then reads with the teacher three other words from which he must select one whose beginning sound is the same as the word the teacher read first; 2) Auditory Perception of Ending Sounds. Here the word to be chosen has the same ending sound as the word the pupil hears; 3) Phonics. Here the pupil selects the written word which is the same as the last word in a sentence read by the teacher; 4) Phonograms – Rhyming Words. A pupil matches a word which he hears to a word he reads.

The Primary II battery contains the test classifications of: 1) Auditory Perception of Beginning Sounds (same as above); 2) Auditory Perception of Ending Sounds (same as above); and 3) Visual Phonics. Visual Phonics requires the matching of the same sound in different words, the focus of the sound being sharpened by the use of different spellings of the sound. In this part, the teacher does not dictate either the key word or the responses. The pupil says the words quietly to himself and marks the correct answer.

In the Intermediate I battery, the Word Study Skills test is in two parts. Part A, Phonics, measures the ability to use phonetic patterns in word recognition. Part B, Syllabication, measures the ability to see word structure.

VOCABULARY

The Vocabulary Test is contained in the Primary I battery. The test employs a multiple-choice type of item in which the pupil is required to select from a series of three alternatives the proper answer to a question or statement read by the teacher. The test includes items measuring the knowledge of synonyms, simple definitions, ready associations, and the higher-level comprehension of the concepts represented by words and terms. The Vocabulary sub-test is intended to measure a pupil's vocabulary independent of his reading skill.

APPENDIX III

Schools and Classes That Participated In the Achievement Testing Program

Alabama
- Alabama Institute for Deaf & Blind
- Birmingham Public Schools

Arizona
- Arizona State School for Deaf & Blind
- Phoenix Elementary Oral Day

California
- Anaheim Union High School District
- Burlingame Elementary School District
- California School for the Deaf – Riverside
- Richmond Unified School District

Colorado
- Colorado School for the Deaf & Blind
- Colorado State College
- Jefferson County Public Schools

Connecticut
- Mystic Oral School for the Deaf

Delaware
- Margaret S. Sterck School for Hearing Impaired

District of Columbia
- Department of Special Education
- Speech & Hearing Center, Public Schools of the District of Columbia

Florida
- Dade County Day Classes for Deaf
- Florida State School for Deaf & Blind

Georgia
- Atlanta Speech School, Inc.
- Georgia School for the Deaf

Hawaii
- Diamond Head School for Deaf

Idaho
- Idaho School for the Deaf & the Blind

Illinois
- Elim Christian School for the Exceptional Child
- Illinois School for the Deaf
- Perry School
- South Metropolitan Association for Low Incidence Handicapped – Homewood

Indiana
- Indiana School for the Deaf

Iowa
- Iowa School for the Deaf
- Smouse Opportunity School

Kansas
- Kansas School for the Deaf

Kentucky
- Kentucky School for the Deaf
- Lexington Deaf Oral School
- Louisville Public Schools

Louisiana
- State School for Deaf – Southern Branch
- Werner Park Elementary School

Maine
- Governor Baxter State School for Deaf

Maryland
- Maryland School for the Deaf
- Montgomery County Public Schools

Massachusetts
- Beverly School for the Deaf
- Boston School for the Deaf
- Bulkeley School
- Clarke School for the Deaf
- Upsala Street School

Michigan
- Ann J. Kellogg School
- Lutheran School for the Deaf

Minnesota
- Minnesota School for the Deaf

Mississippi
- Magnolia Speech School

Missouri
- Missouri School for the Deaf
- St. Louis County, Special School District for the Handicapped (Litzsinger School)
- Troost School

Montana
- Montana State School for Deaf & Blind

Nebraska
- Prescott School

Nevada
- Ruby S. Thomas School

New Hampshire
- Crotched Mountain School for the Deaf

New Jersey
- Bruce Street School
- Marie H. Katzenbach School for the Deaf

New Mexico
- New Mexico School for the Deaf

New York
- Catholic Charities Day Classes for Deaf Children
- Hebrew Institute for the Deaf
- New York School for the Deaf – White Plains
- Public School #20, Albany
- Rochester School for the Deaf
- St. Joseph's School for the Deaf
- St. Mary's School for the Deaf
- Suffolk School for Deaf Children

North Carolina
- Eastern North Carolina School for Deaf
- Governor Morehead School
- North Carolina School for the Deaf

North Dakota
- North Dakota School for the Deaf

Ohio
- Alexander Graham Bell School
- Betty Jane Oral School
- Cincinnati Educational Center
- Melridge School
- Ohio School for the Deaf
- Pioneer Elementary
- St. Rita School for Deaf

Oklahoma
- Oklahoma School for the Deaf

Oregon
- Oregon State School for the Deaf

Pennsylvania
- Archbishop Ryan Memorial Institute for the Deaf
- DePaul Institute
- Pennsylvania School for the Deaf
- Pennsylvania State Oral School for the Deaf
- Western Pennsylvania School for the Deaf
- Willis & Elizabeth Martin School

Rhode Island
- Rhode Island School for the Deaf
- Windmill Hearing Therapy School

South Carolina
- South Carolina School for the Deaf and the Blind

South Dakota
- South Dakota School for the Deaf

Tennessee
- Bill Wilkerson Hearing and Speech Center
- Knox County Public Schools
- Tennessee School for the Deaf

Texas
- Callier Hearing & Speech Center
- Houston School for Deaf Children
- School of Listening Eyes
- Sunshine Cottage School for Deaf Children
- Texas School for the Deaf

Utah
- Utah Schools for the Deaf and the Blind

Vermont
- The Austine School for the Deaf

Virginia
- Arlington County Public Schools
- Virginia School for the Deaf & the Blind
- Virginia State School for the Deaf

Washington
- Birney School
- Edna E. Davis School
- Seattle Public Schools

West Virginia
- West Virginia School for the Deaf and the Blind

Wisconsin
- Frank Allis School
- Lapham School
- Wadewitz School
- Wisconsin School for the Deaf

Wyoming
- Wyoming School for the Deaf